

BOROUGH OF



LEICESTER.

SIXTY-FIRST

ANNUAL REPORT

UPON THE

HEALTH OF LEICESTER,

For the Year 1909,

BY

C. KILLICK MILLARD, M.D., D.Sc.,

*Medical Officer of Health; Medical Superintendent of the Borough
Isolation Hospital; Public Analyst for the Borough.*

ALSO

REPORTS on the INFANTS' MILK DEPOT and
ISOLATION HOSPITAL, and the REPORTS of the
PUBLIC ANALYST, the CHIEF INSPECTOR, the
FOOD INSPECTORS, the WOMEN INSPECTORS, and
the SUPERINTENDENTS of the REFUSE DISPOSAL
and STREET CLEANSING DEPARTMENTS.

LEICESTER

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C. KILLICK MILLARD, M.D., D.Sc.

* Holds Certificate of the Sanitary Institute.

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SUMMARY OF STATISTICS

For the Year 1909.

BOROUGH OF LEICESTER.

Population (estimated) at Mid-year 1909	..	..	244,255
Population at Census, 1901, 211,581.			
Marriages	..	..	1,769
Marriage-rate	..	..	14.48
Births	..	..	5,431
Birth-rate	..	..	22.23
Deaths (corrected for Institutions)	..	..	3,153
Death-rate	..	..	12.90
Infant Mortality (per 1,000 births)	..	..	126.6
Zymotic-rate	..	..	1.26
Diarrhoea-rate	..	..	.43
Phthisis-rate	..	..	1.18
Respiratory-rate	..	..	2.32

76 GREAT TOWNS.

					Average
Birth-rate	..	..	..	..	25.7
Death-rate	..	..	..	..	14.7
Zymotic Death-rate	..	..	..	..	1.42
Infant Mortality	..	..	..	..	118

LEICESTER.

Area of Borough (in acres)	..	..	8,586
Number of persons per acre at Census, 1901	..	24.6	
Number of persons per House at Census, 1901	..	4.6	
Number of Inhabited Houses, July, 1909	..	50,070	
Number of Empty Houses, July, 1909	..	2,791	
Rateable value (on March 31st, 1909)	..	£1,104,184	
Assessable value	..	£1,069,970	
Penny in £ produced	..	£3,980	
Rates in the £, 1903-10:		s. d.	
Poor Rate	..	..	2 2
General District Rate	..	..	5 11

8 1

Borough extended in year 1891.

TOWN HALL, LEICESTER,

April, 1910.

TO THE CHAIRMAN AND MEMBERS OF THE SANITARY
COMMITTEE.

Gentlemen,

I have the honour to present to you my Annual Report on the Health of Leicester for the year 1909.

The retrospect is again a very satisfactory one. The death-rate was only 12.90, which is considerably below the average of other large towns; the infant mortality rate was only 126.6, which is quite the lowest on record; and the zymotic rate was only 1.26, which is the lowest for any year but one.

Enteric Fever continues to decline; only five deaths were caused by it throughout the whole year, this being the smallest number yet recorded. It is shown in the Report that there are good reasons for connecting part, at least, of the decrease in Enteric Fever in recent years with the conversion of pail closets to water closets.

Infantile Diarrhoea, at one time Leicester's special scourge, also continues to diminish.

Scarlet Fever, although rather more prevalent than in the previous year, was of a very mild type, and the mortality caused by it was below the average for other large towns.

Diphtheria caused but little trouble during the year, and the mortality from it was less than half the average for other great towns.

Phthisis, unfortunately, again caused a large number of deaths, the figure being practically the same as in 1908, but showing some improvement on the average for the previous five years, viz., 290, compared with 308.

Some reference is made in the Report to Cancer, and it is shown that whilst, unfortunately, the increase in this disease which is taking place throughout the country is shared by Leicester, the latter compares favourably with other large towns.

The Infants' Milk Depot continues to do good work, and the number of infants fed from the Depot shows no falling off, but on the other hand is increasing.

The usual Statistical Tables, together with some fresh ones, have been grouped together, as in last year's Report, and appear in Appendix IX.

I wish to acknowledge my obligations for loyal assistance rendered by Chief Inspector Braley, whose long experience in the work of this Department is invaluable, and also to all the members of the Sanitary and Hospital Staffs, who have worked willingly and well. I have to thank the individual members of the Sanitary Committee for the consideration they have ever extended to me, and especially Alderman T. Windley, who holds the unique position of having been Chairman of this Committee for no less than thirty-four years.

I am, Gentlemen,

Your obedient servant,

C. Killick Millard

Medical Officer of Health

Medical Officer of Health's Report

FOR THE YEAR 1909.

PART I.

STATISTICAL.

POPULATION.

The population of the Borough of Leicester for the year 1909, as estimated by the Registrar General, was 244,255—an increase of 4,083 upon the previous year—and it is upon this basis as usual that the vital statistics for the year in the present Report have been calculated.

It is necessary to use this basis in order that the statistics may be in harmony with those published by the Registrar General, and for purpose of comparison with other towns, but at the same time, as has been pointed out in previous Reports, there is reason to believe that the Registrar General's estimate of population (which is based upon the rate of increase which occurred in the last intercensal period) is, in the case of Leicester, somewhat too high.

As a check upon this estimate we may multiply the number of inhabited houses by the number of persons per house found to exist at the last Census, viz., 4·6, as it is reasonable to assume that this figure has not materially altered. The number of inhabited houses at the middle of the year was 50,070, so that by this method the population is 230,322, or 13,933 below the Registrar General's estimate. It follows that if this smaller population should prove to be correct, the birth-rate, death-rate, marriage-rate, and other rates based on population will all be to some extent under-estimated. In the case of the death-rate—the rate in which most interest centres—the necessary correction, however, would only amount to +·78, making the death-rate for 1909 13·68 instead of 12·90.

The *Natural Increase* in the population for the year, or excess of births over deaths, amounted to 2,278. This figure, however, is not a very reliable indication of the true increase of population, for in a large industrial centre like Leicester immigration plays an important part.

GROWTH OF LEICESTER IN PAST DECADES.

The following figures, showing the population of the Borough at each Census during the past century, indicate the remarkable increase which has taken place :—

Year.	Population.	Increase.	Percentage Increase.
1801 ..	17,005		
1811 ..	23,146 ..	6,141 ..	36·1
1821 ..	31,036 ..	7,890 ..	34·1
1831 ..	38,904 ..	7,868 ..	25·3

BOUNDARIES EXTENDED IN 1836.

1841 ..	50,806 ..	11,902 ..	30·6
1851 ..	60,584 ..	9,778 ..	19·2
1861 ..	68,052 ..	7,468 ..	12·3
1871 ..	95,220 ..	27,168 ..	39·9
1881 ..	122,376 ..	27,156 ..	28·5

BOUNDARIES EXTENDED IN 1891.

1891 ..	174,624 ..	52,248 ..	42·7
1901 ..	211,579 ..	36,955 ..	21·2

INHABITED HOUSES.

The number of inhabited houses on July 1st, 1909, was 50,070,* being an increase of 876 upon the figure for 1908, which in turn was an increase of 349 upon 1907. This is the most substantial increase in the number of occupied houses for several years, and is a welcome indication of the improved condition of local trade.

The number of empty houses on the same date was 2,791*—a decrease on the previous year of 327. Of these empties 74 per cent. are cottages, and a very large proportion of these are very old and of an inferior class. It is possible that many of them will never again be used for habitation.

RATEABLE VALUE.

The *Rateable value* of the Borough for the year 1909-10 was £1,104,484, the *Assessable value* was £1,069,970, and a penny in the pound produced £3,980.

* Figures supplied by Mr. Wm. Earp, Chief Assistant Overseer.

MARRIAGES.

The number of marriages solemnised in the Borough during the year was 1,769.

March Quarter	..	..	..	279
June	„	..	..	522
September	„	..	..	487
December	„	..	..	481

1,769

The *Marriage-rate* was 14.48, which is a fraction lower than in the previous year, and is the lowest rate hitherto recorded. The marriage-rate, like the birth-rate, has been declining for a long period—about forty years.

BIRTHS.

The number of births registered during 1909 was 5,431,* of which 2,770 were males and 2,661 were females. This number is 249 less than in the previous year, and is the lowest figure yet reached. The actual number of births has been decreasing since 1902, when the number was 6,313.

The *Birth-rate* was 22.23, as against 23.64 the previous year, and is the lowest on record. The birth-rate in Leicester, as throughout the country, has been falling for over thirty years, but Leicestershire is one of the counties in which the decline has been most marked. In 1876 the birth-rate in Leicester was 44.02; *i.e.*, for every 1,000 persons in the population 44 infants were born each year. Last year only 22 infants, or just half the number, were born for every 1,000 persons.

The *birth-rate* in the 76 Great Towns was 25.7

The number of *illegitimate* births was 227, or 4.2 per cent. of the total births.

Still-births.—As still-births do not require to be registered (though it is very desirable that they should be), the number can only be arrived at indirectly. I have ascertained from the Regis-

* This includes 65 births which occurred at the Poor Law Infirmary, which is situate just outside Borough Boundary.

trars of the three Borough Cemeteries the number of burials of still-born infants during the year, as follows :—

Gilroes Cemetery	..	..	..	148
Wellford Road	..	..	..	87
Belgrave	..	..	..	14
Total	..	..	..	249

This is equivalent to 4.5 per cent. of the live births.

DEATHS

The number of deaths of residents of Leicester during 1909, after correcting for public institutions,* was 3,153, of which 1,527 were males and 1,626 were females.

The *Death-rate* for 1909 was 12.90 † per 1,000 population, which is almost identical with the figure for 1908 (12.98), and only a fraction higher than the rate for 1907 (12.65), which was the lowest on record.

When such an extremely low rate occurred in the last mentioned year it seemed too much to expect that it would be repeated ; it was more reasonable to regard it rather as a chance occurrence due to a combination of favourable circumstances—e.g., cool summer and absence of fatal epidemics. It is certainly, therefore, a cause for real satisfaction that *for three years in succession* the death-rate for Leicester has continued almost equally favourable.

The following table shows the remarkable reduction which has been effected in the general death-rate of Leicester during the past thirty-seven years :—

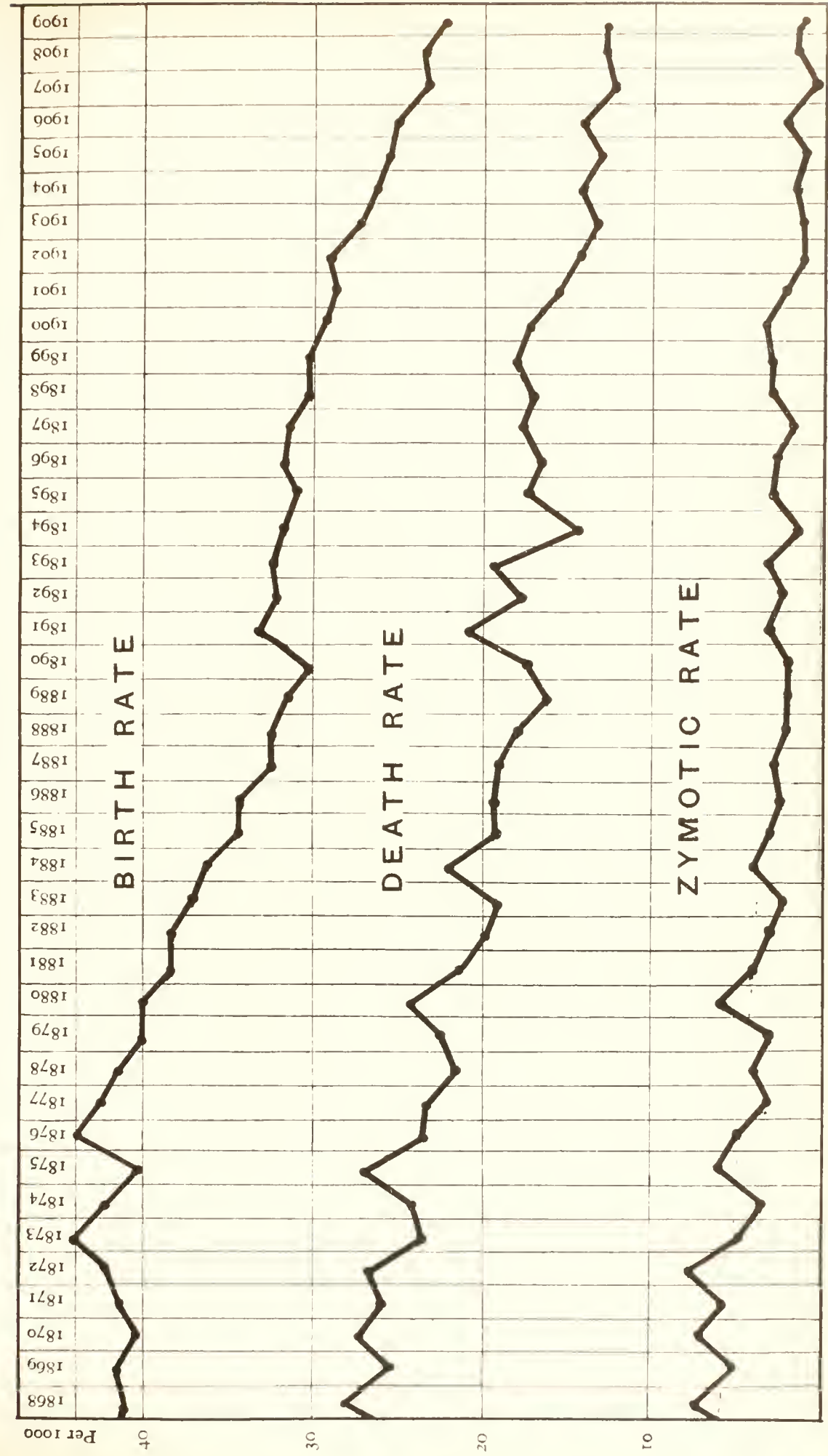
Quinquennial Period.	Average Death-rate.
1872—1876	25.18
1877—1881	22.85
1882—1886	20.07
1887—1891	18.58
1892—1896	17.31
1897—1901	17.40
1902—1906	14.18
1907	12.65
1908	12.98
1909	12.90

* Eighty three deaths of non-residents occurring at the Leicester Infirmary, and four deaths of non-residents occurring at the Home Hospital, have been deducted from the deaths registered in Leicester ; whilst thirty deaths of patients at the Borough Isolation Hospital, and 315 deaths at the Leicester Poor Law Infirmary have been added, these institutions being outside the Borough.

† If calculated on the revised population as estimated from the number of inhabited houses (see p. 11), the death-rate would work out at 13.68 which is still a very low figure.

SHOWING DECREASE IN BIRTH-RATE, DEATH-RATE, AND ZYMOTIC-RATE IN LEICESTER

1868 . 1909.



As was pointed out in the last Annual Report, the gratifying reduction in the death-rate which has occurred during the past thirty-five years represents a saving on the present population of about 3,000 lives annually.

Doubt is sometimes expressed as to how a death-rate so low as 13 per 1,000 can be possible, it being assumed that if only 13 persons out of every 1,000 die each year, the *mean* duration of life must be $1,000 \div 13$, or 77 years, which, in view of the large number of lives cut off in infancy and childhood, and the comparatively small number who live to be 77, is evidently very far from being the case. The explanation is that this assumption as to the mean duration of life would only hold good in a *stationary* population, *i.e.*, one in which the birth exactly balanced the deaths, and in which there was no infusion of young blood due to immigration. In a growing town, such as Leicester, in which the number of births is nearly double that of the deaths, and in which young people tend to move into the towns and settle there, the population is not stationary but increasing every year, the increment consisting almost entirely of young lives.

Should the number of births continue to fall till it no longer exceeds the deaths, and should immigration of young people cease, so that the population of Leicester became stationary, then even though people lived just as long as at present it is quite certain that the crude death-rate (*i.e.*, the general death-rate per 1,000 population at all ages, uncorrected for age-distribution) would increase very largely.

DEATH-RATES IN OTHER GREAT TOWNS.

As usual, Leicester's death-rate for 1909 compares very favourably with that of other great centres. In Table VI will be found the principal vital statistics in 1909 for the 33 Great Towns with populations of over 100,000, together with the average death-rates for the preceding five years. It will be seen that the only towns with a lower death-rate than Leicester, in 1909, are Croydon, 11·7; Bristol, 12·7; and Gateshead, 12·7. Comparing the *average* death-rates during the five years, 1904-1908, which is, of course, a more reliable test, we find that the only towns with lower rates than Leicester (13·5) are Croydon 13·0, and Southampton 13·4.

These figures, it should be observed, are the Registrar General's, and therefore independent of any over-optimistic local calculation. It is necessary to mention this because the continued low death-

rate in Leicester has raised doubt in some minds as to the accuracy of the figures ; at the same time, as has already been pointed out, the population of Leicester—in common with many other large towns—will probably be found at the next Census to be somewhat over-estimated, and some correction of the death-rate (though there is reason to believe this will amount to less than 1 per 1,000) may have to be made on this account.

AGE-INCIDENCE OF DEATHS.

With a steadily falling birth-rate, with a diminishing infant mortality, and with a decreasing death-rate, we should expect to find that a considerable alteration is taking place in the age-incidence of the deaths in Leicester. Less children are being born and of these a smaller proportion are being allowed to die, consequently the proportion of children in the population, and the proportion of deaths of children should be diminishing. On the other hand, the proportion of old people in the population is increasing, and (in spite of this) the general death-rate is decreasing. Therefore, people must be living longer, and we should expect to find both the actual number of deaths of old people, and the proportion these bear to the total deaths, to be increasing. That these changes are actually taking place is proved by the following figures :—

AGE-DISTRIBUTION OF PERSONS LIVING.

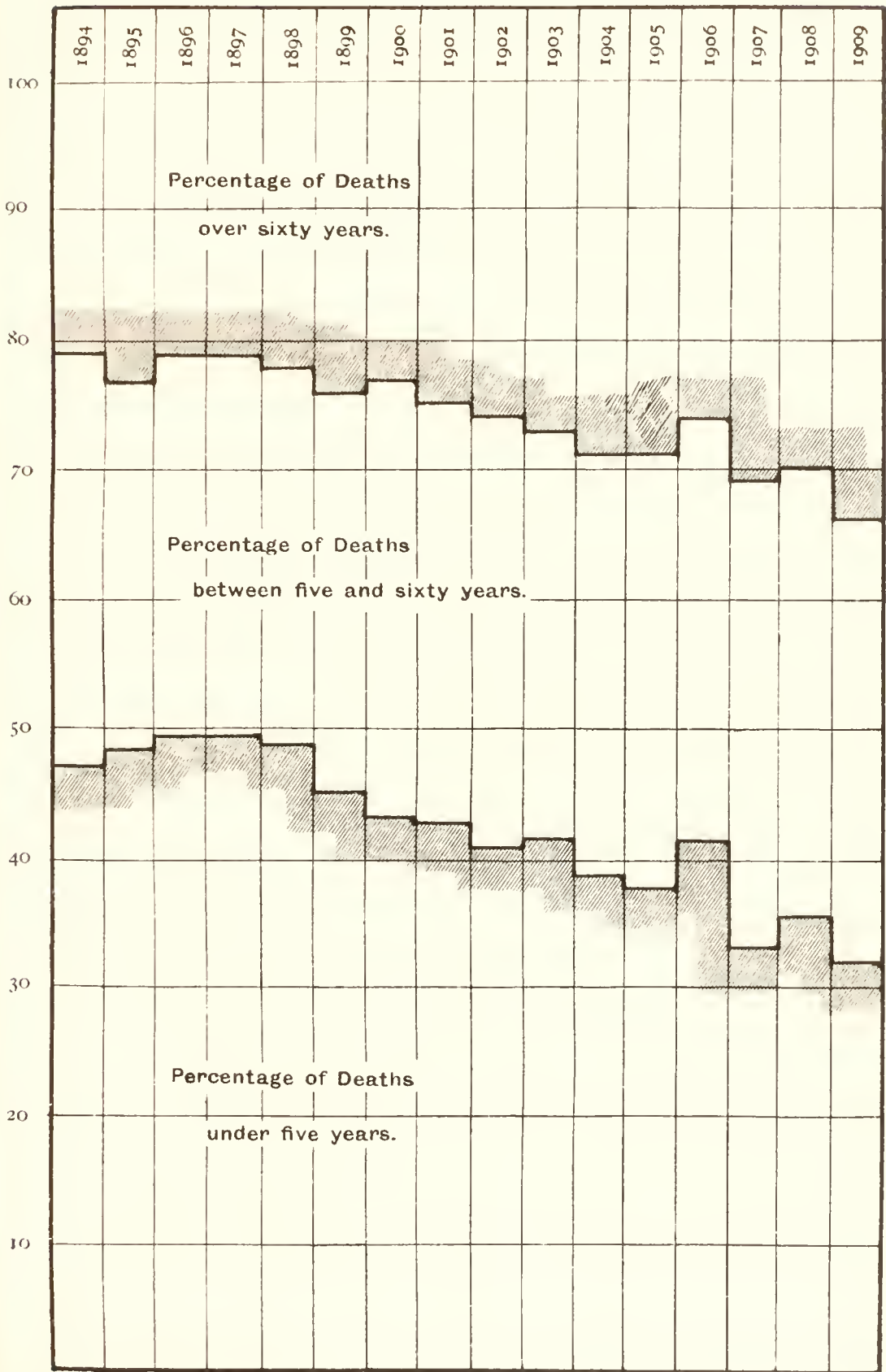
	Under 5 years. Percentage Living.	5 to 60 years. Percentage Living.	Over 60 years. Percentage Living.
Census, 1891..	12.4	81.8	5.8
Census, 1901	11.4	82.6	6.0

AGE-INCIDENCE OF DEATHS.

Year.	Under 5 years. Percentage of Deaths.	5 to 60 years. Percentage of Deaths.	Over 60 years. Percentage of Deaths.
1894	17.6	31.8	20.6
1899	15.8	31.1	24.1
1904	38.4	32.5	29.1
1909	31.9	31.1	34.0

The alteration which is taking place is shown graphically in Diagram II, the figures on which the diagram is based being given in Table XXX.

DIAGRAM II.
 SHOWING ALTERATION IN AGE-INCIDENCE OF
 DEATHS IN LEICESTER



CAUSES OF DEATH DURING 1909.

The number of deaths caused by the principal diseases, or causes of death during the year is set out below. The causes usually regarded as more or less preventable in their nature are underlined :—

	No. of Deaths.
Bronchitis and Pneumonia	535
Heart Disease	357
<u>Phthisis</u>	290
Diseases of the Nervous System	231
Old Age	214
Cancer and Malignant Disease	195
<u>Diarrhœa and Enteritis</u>	135
<u>Inanition and Debility</u>	132
<u>Measles</u>	109
Premature Birth	106
Convulsions	83
<u>Tubercular Diseases (other than Phthisis)</u> ..	81
Diseases of the Kidneys	69
<u>Accidents and Negligence</u>	63
<u>Whooping Cough</u>	51
<u>Scarlet Fever</u>	23
Child Birth	18
<u>Diphtheria</u>	14
Rickets	12
<u>Enteric Fever</u>	5
All other causes	430
Total	3,153

The deaths from bronchitis and pneumonia were very much more numerous than usual, a fact which is presumably due, at least in part, to the exceptionally cold summer experienced. The deaths from phthisis numbered about the average of the last few years, but if we add the deaths from other forms of tuberculosis and compare the total tubercular deaths, we find that the figure (371) is the lowest for seven years. This is shown better in Table XX.

Diarrhœa, measles, scarlet fever, diseases of the kidneys, convulsions, and cancer all show a decrease on the previous year ; whilst heart disease, diseases of the nervous system, inanition, whooping cough, show an increase.

PREMATURE BIRTH.

It is also satisfactory to record that the number of deaths attributed to premature birth is again below the average :—

Period.	Deaths due to Premature Birth per 1,000 Children born.	
1903—7 ..	..	23.9
1908 ..	..	19.8
1909 ..	..	19.5

CANCER AND MALIGNANT DISEASES.

It is greatly to be deplored that the death-roll from cancer and malignant diseases is distinctly on the increase throughout the country, and Leicester, unfortunately, participates in this change. In the table below are given the local figures for the past twenty-two years, from which the steady and rapid increase which has occurred is at once apparent. Confining our attention to the twenty years, 1888 to 1907, we see that the average number of deaths annually has increased from 75 to 190. Part of this increase, of course, is due to increase in population, but allowing for this, we find that the rate per 100,000 has increased from 48.6 to 89.1. Expressed as a proportion of the total deaths the increase is even more striking, having gone up from 2.6 per cent. of the total deaths to 6.0 per cent. The reason for this apparently greater increase is, of course, that whilst the deaths from cancer have been increasing, the deaths from all causes have been diminishing.

During the past year, however, it is satisfactory to note that a decrease has occurred, and the rate per 100,000 is considerably less than in 1908, and below the average for the previous quinquennium.

DEATHS FROM CANCER AND MALIGNANT DISEASE.

Period.	Average Number of Deaths Annually.	Rate per 100,000 Population.	Percentage of Total Deaths.
1888—1892	75	48.6	2.6
1893—1897	119	62.3	3.5
1898—1902	145	69.3	4.2
1903—1907	190	83.3	6.0
1908	211	89.1	6.8
1909	195	79.9	6.1

An important point which has to be borne in mind in considering the increase in cancer deaths, is that cancer is essentially a disease of the later years of life ; so that as people are now living longer, and more people are dying at an advanced age, it is only to be expected that some increase in cancer deaths should occur.

During the past five years, 1905-9, the age-distribution of all the cancer deaths which have occurred has been as follows :—

NO. OF DEATHS.

Under 40 years.	40 to 60 years.	Over 60 years.
79 = 8 per cent.	366 = 38 per cent.	511 = 54 per cent.

This factor, however, by no means explains the whole of the increase in the number of cancer deaths which is taking place ; it is certain that other causes are at work, but as to their nature our knowledge is at present quite at fault. All sorts of explanations have been suggested, but little real evidence in support of any of them has been adduced.

One other fact in connection with this disease is worthy of mention, and that is that females are much more subject to it than males. We invariably find more women dying from it than men, and the difference is very much greater than can be accounted for by the greater number of women in the population. The explanation lies in the fact that the sexual organs in women are specially liable to be attacked by the disease.

CANCER DEATHS.

Sex Distribution.

Year.		Males.		Females.
1905	..	71	..	109
1906	..	69	..	99
1907	..	73	..	126
1908	..	90	..	124
1909	..	80	..	115
Total		383		573

Ratio, 100 in males to 149 in females.

It is of interest to note that the increase in cancer deaths which is taking place throughout the country has been almost confined during the last few years to cancer deaths in males. Some years ago the increase occurred chiefly amongst females.

The chief organ in the body to be affected in males is the stomach, this being affected (as shown by the Registrar General) in about 20 per cent. of all cases. The next part in frequency to be affected is the liver and gall bladder. In females, as already indicated, the disease more frequently affects the breasts, uterus, and ovaries.

THE POSITION OF LEICESTER IN REGARD TO CANCER AS COMPARED WITH THE REST OF THE COUNTRY.

The mortality from cancer in England and Wales for the year 1908 (the last year for which the information is available) was 92 per 100,000 population. The corresponding figure for Leicester, as stated above, was 89. As cancer mortality varies considerably, however, in urban and rural districts, it is fairer to make the comparison with other large industrial towns. The following returns show that the position of Leicester is by no means unfavourable :—

CANCER MORTALITY, 1908.

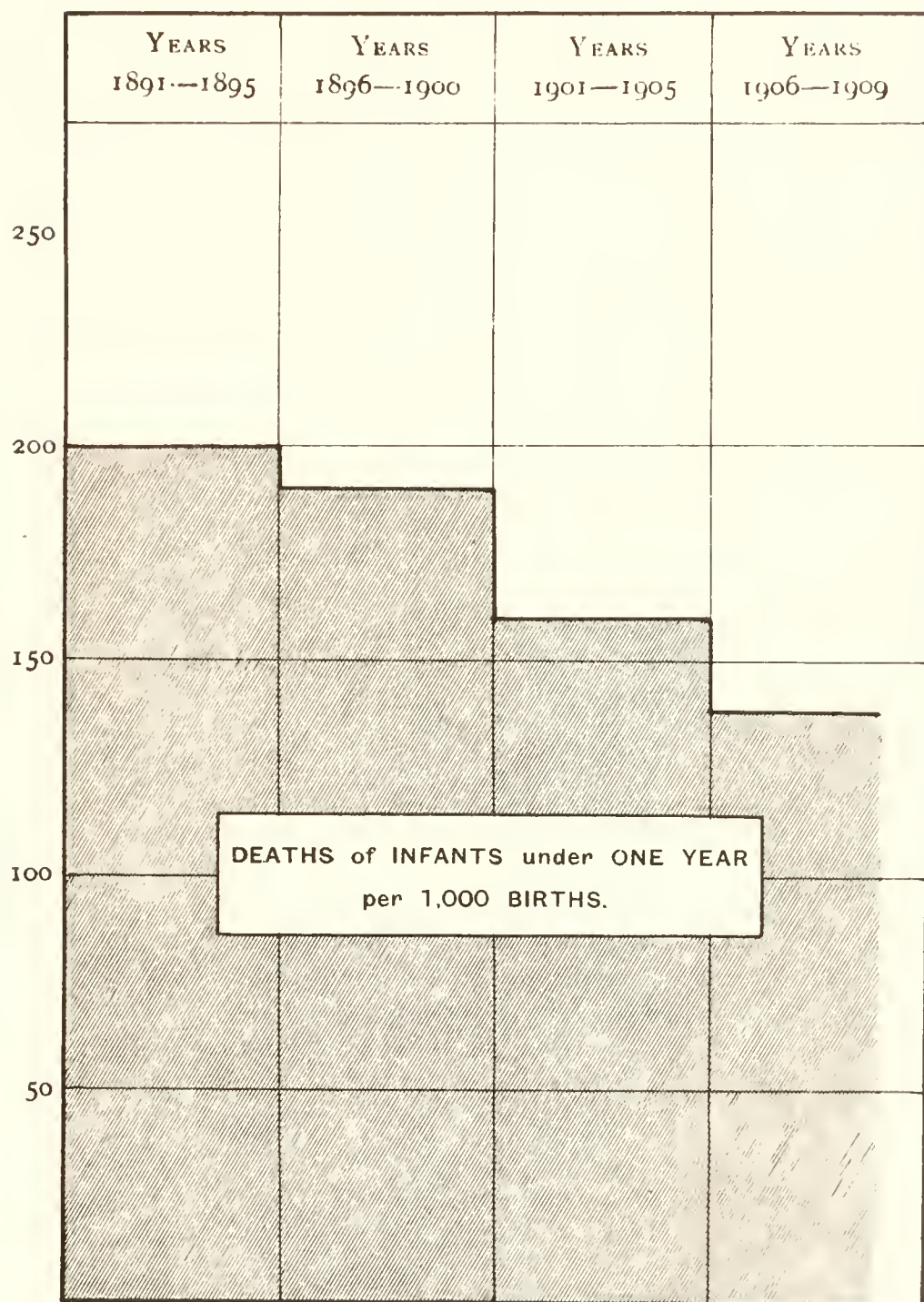
	Deaths per 100,000 population.			
Portsmouth	...	...	...	86
Liverpool	...	...	...	87
Hull	...	...	...	88
Leicester	...	...	...	89
Manchester	..	...	...	90
Southampton	...	...	...	91
Nottingham	...	...	...	97
Leeds	...	...	...	97
Northampton	...	..	...	99
Coventry	...	...	...	105
Huddersfield	...	...	...	113
Brighton	...	...	...	121

INFANT MORTALITY.

The number of deaths of infants under one year of age was 688, of which 375 were males, and 313 were females. As usual the deaths of male infants were in excess of the deaths of females.

The rate of *Infant Mortality*—or proportion of infant deaths to children born—was 126·6 per 1,000 births, as compared with 129·7 in the previous year, which was the lowest on record. It will be seen, therefore, that the record has been very considerably reduced.

DIAGRAM III.
SHOWING DECREASE IN INFANT MORTALITY
IN LEICESTER



The steady and continuous reduction in infant mortality which is being effected is shown by the following figures :—

Period.			Average Infant Mortality.
1892—1896	..	..	194·4
1897—1901 ..	..	..	189·2
1902—1903 ..	..	..	158·1
1907	..		130·1
1908	..		129·7
1909	..		126·6

It is reasonable to believe that the various efforts that are being made to save infant life—the Infants' Milk Depot, the visits of Health Visitors, the conversion of the pail closets to water closets (by diminishing summer diarrhœa), &c., are contributing to this satisfactory result.

It is probable also that the fall in the birth-rate, by making infant life more precious, has had something to do with it, and if so the decline in the birth-rate must certainly not be looked upon as an unmixed evil.

The causes of death in infants in which the major part of the reduction has been effected are (1) diarrhœa ; (2) convulsions ; and (3) lung diseases. All these causes of death are more or less indication of want of maternal care or proper "mothering," and this supports the belief that infant deaths are essentially preventable.

Not only are infants deaths diminishing in Leicester when expressed as a proportion of the children born, but also when expressed as a proportion of the total deaths. Thus :—

Period.			Average Annual Deaths of Infants per 1000 deaths at all ages.
1893—1897 ..	..	..	361
1898—1902 ..	..	..	317
1903—1907 ..	..	..	288
1908	..	..	236
1909	..	..	218

DEATHS OF INFANTS AT SUCCESSIVE AGES DURING FIRST YEAR OF LIFE.

In Tables XXVI and XXVI (*a*) are shown the deaths of infants from stated causes in Weeks and Months under One Year of Age.

One striking fact which emerges is that 32 per cent. of all infant deaths in 1909 occurred during the first month of life, whilst 50 per cent. occurred during the first three months.

Classifying the 221 deaths under one month into weeks, we find that 116 deaths occurred in the first week ; 33 in the second ; 40 in the third ; and 32 in the fourth week. It is, of course, well known that infant mortality is heaviest during the first few weeks of life, rapidly declining as the age increases.

The chief causes of mortality in these early weeks of life are Premature Birth, Atrophy and Debility, and Convulsions.

ZYMOTIC MORTALITY.

There were 308 deaths from the seven principal zymotic diseases, viz. :—

Smallpox	Nil
Measles	109
Scarlet Fever	23
Diphtheria	14
Whooping Cough	51
Enteric Fever	5
Diarrhoea	106
Total	308

The *Zymotic Death-rate* was 1.26 per 1,000 population, which is the lowest for any year except 1907.

The zymotic rate for the 76 Great Towns was 1.42.

ZYMOTIC MORTALITY IN OTHER GREAT TOWNS.

It is interesting to compare the mortality from zymotic diseases in Leicester and in other great centres.

From the figures which follow it will be seen that last year Leicester was slightly above the average as regards diarrhoea and measles, but below the average as regards scarlet fever, diphtheria, and enteric fever.

MORTALITY PER 100,000 POPULATION.

	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Enteric Fever.	Diarrhoea.	Principal Zymotics.
Leicester ..	41	9	6	21	2	43	122
32 other Great Towns	39	11	16	22	7	37	132

WARD STATISTICS.

DEATH-RATES.

Knighton Ward, as so often before, has the distinction of having the lowest death-rate, viz., only 7·8, followed by West Humberstone, 8·8; and Charnwood, 9·3. At the other end of the scale come Wycliffe, 18·0; Wyggeston, 18·9; and Newton Ward, 19·8.

St. Martin's Ward, which for the previous three years has had a high mortality, shows a welcome decline. The population of this ward is very small, being less than 3,000, and for this reason big fluctuations are more likely to occur than in a larger Ward.

BIRTH-RATES.

The lowest rate was in De Montfort, viz., only 12·2. This Ward always has an extremely low birth-rate, much lower than any other Ward. The reason probably is that De Montfort is to a great extent an old-established residential district, where the population consists largely of persons in advanced life. Young married couples tend to settle in the newer districts.

The next lowest rates come in Knighton and St. Martin's, 17·7; and Charnwood, 18·8. At the other extreme we have Newton, 24·2; St. Margaret's, 24·7; West Humberstone, 27·7; and Wyggeston, 30·5.

INFANT MORTALITY.

The Ward with the lowest infant death-rate was Charnwood, with the remarkably low figure of 59. For several years both the general death-rate and the infant mortality rate in this Ward have been steadily improving. This will be seen more clearly if the figures are placed in tabular form.

STATISTICS OF CHARNWOOD WARD

Year.	General Death-rate.		Infant Death rate.	
1906	..	16·9	..	166
1907	..	12·2	..	149
1908	..	11·2	..	123
1909	..	9·3	..	59

If this favourable condition continues Charnwood will have to be reckoned as one of the healthiest Wards in the Borough. The low general mortality is partly explicable by the small number of deaths from respiratory diseases, viz., 10, and from plithisis, 9, whilst the low infant mortality is largely due to the fact that during the year there was only a single death from diarrhoea.

The other Wards with low infant death rates were Knighton 66, and Spinney Hill 105. On the other hand, the Wards with the highest rates were Wycliffe, 181 ; Castle, 195 ; and Newton Ward, 243.

The age distribution of the deaths in each Ward, together with the number of deaths from the principal causes, is given in Table V.

AVERAGE WARD STATISTICS.

During the five years 1905-9.

Much more valuable for comparative purposes than the statistics of a single year are the average rates over a series of years. In Table IV (*a*) are given the average death-rate, birth-rate, and infant mortality, in each Municipal Ward for the five years, 1905-9.

From this it appears that the Wards with the lowest and highest average rates are as follows :—

DEATH-RATE.

Lowest.			Highest.		
Knighton	..	8·1	Newton	..	20·6
Westcotes	..	9·5	Wygggeston	..	10·8
West Humberstone	..	10·0	Wycliffe	..	17·8
Spinney Hill	..	10·2	St. Margaret's	..	15·4
Aylestone	..	12·0	St. Martin's	..	14·8

BIRTH-RATE.

De Montfort	..	12·4	Wygggeston	..	31·3
St. Martin's	..	14·2	Newton	..	29·3
Knighton	..	19·0	West Humberstone	..	28·3
Wycliffe	..	20·2	Belgrave	..	28·2
Charnwood	..	20·9	Latimer	..	27·8

INFANT MORTALITY.

Knighton	..	72	Newton	..	228
Spinney Hill	..	99	Wygggeston	..	207
Westcotes	..	106	St. Martin's	..	186
West Humberstone	..	117	Wycliffe	..	175
Charnwood	..	122	St. Margaret's	..	171

Knighton Ward, comprising the best residential district in the Borough, together with Clarendon Park—a high-class artisan district, and not handicapped by any “slummy” district—has

the lowest death-rate, the lowest infant mortality, and one of the lowest birth-rates. Besides the all-important social factor, it stands high and dry, on the outskirts of the town, and has the advantage of the Victoria Park.

Westcotes Ward, another good-class residential district on the outskirts of the town, but including a rather poor working-class neighbourhood between Hinckley Road and King Richard's Road, has the second lowest death-rate, and the third lowest infant mortality, and the birth-rate is also low. Other Wards with a very low death rate and infant mortality are West Humberstone and Spinney Hill. The latter comprises the Highfields—a residential district standing high above the town—the remainder being chiefly occupied by a good-class artisan population. Like Knighton, it has the advantage of an excellent park, and like Knighton and Westcotes there is little, if any, poverty.

The favourable statistics of West Humberstone, however, are more surprising, and are not so easy to account for. The Ward comprises the streets on either side of Humberstone Road beyond the Midland Railway, and includes the Overton Road district—one of the least favourable (as regards the social condition of the inhabitants) of any in the Borough. It is worthy of note, however, that in sharp distinction to the well-to-do Wards already referred to, West Humberstone combines with a low death-rate and low infant mortality a high birth-rate, having, indeed, the third highest of any. This is certainly remarkable. The two Wards with higher birth-rates—Newton and Wyggaston—combine with a high birth-rate, a high death-rate and a high infant mortality. Indeed, these two Wards have the unfortunate distinction of having the highest death-rate and the highest infant mortality, together with the highest birth-rate. They have this in common : both are entirely working-class districts in a very old part near the centre of the town. There is much poverty, the bread-winners in very many cases being casual labourers. The two Wards are close together, almost continuous, being only separated by part of St. Margaret's Ward. The statistics of the latter come out much better, probably because this Ward includes a large rather better working-class neighbourhood on the left-hand side of Belgrave Road beyond the Great Northern Station. It also has the great advantage of proximity to the splendid Abbey Park.

A very interesting contrast is obtained by dividing the various Wards into groups, according as the average death-rate is above or below, or about the same as that for the whole Borough. The average death-rate for the whole of Leicester for the past five years is 13·3 per 1,000. We may therefore divide the Wards into three groups as follows: (a) Below 13 per 1,000; (b) 13-14 per 1,000; (c) above 14 per 1,000.

(a) Below 13·0 per 1,000

Knighton	..	..	..	8·1
Westcotes	..	..	..	9·5
West Humberstone	..	..	..	10·0
Spinney Hill	..	..	..	10·2
Aylestone	..	..	..	12·0
Charnwood	..	..	..	12·3

(b) 13·0 - 14·0 per 1,000.

Abbey	..	..	..	13·0
Belgrave	..	..	..	13·0
De Montfort	..	..	..	13·3
Castle	..	..	..	13·9

(c) Above 14·0 per 1,000.

Latimer	..	..	..	14·6
St. Martin's	..	..	..	14·8
St. Margaret's		..	..	15·4
Wycliffe	.	..	..	17·8
Wyggeston	..	..	..	18·0
Newton	..	..	..	20·6

PART II.

ZYMOTIC DISEASES.

SMALLPOX.

During the year under review the whole country continued very free from this dreaded disease, only 86 cases occurring throughout England and Wales. These were scattered throughout the country, many of them occurring at sea-port towns and being clearly imported from abroad. No serious outbreak occurred anywhere.

The disease did not appear in Leicester, and it is now three years since the last case was reported, and five years since a death occurred.

During the first quarter of 1910 the disease has shown rather more activity, 52 cases being reported, and several cases have occurred in the neighbouring City of Nottingham. The first two notified cases were in unvaccinated children, but I understand that the source of infection in these cases was traced to an unrecognised case in a vaccinated child.

As the experience of Leicester during the epidemics of 1903 and 1904 was very different from what had been expected by many people, and as it has an important bearing upon the vexed question of the necessity of compulsory vaccination, it may be well to quote the figures of the epidemics.

In the 1903 epidemic there were 394 cases, with 21 deaths, yielding a case mortality of 5·3 per cent.

In the 1904 epidemic there were 321 cases, with 4 deaths, yielding a case mortality of only 1·2 per cent.

Several of our large cities suffered from more or less extensive epidemics about this period, but in none was such a low case-mortality as 1·2 per cent. recorded. In view of the large proportion of unvaccinated persons in Leicester such a result is specially remarkable.

VACCINATION.

The following figures show the number of vaccinations registered, and the "exemptions" granted during each quarter of the year:—

	Public.	Private.	Total	Exemptions
			Vaccinations.	Granted.
First Quarter ..	51 ..	115 ..	166 ..	535
Second Quarter ..	64 ..	113 ..	177 ..	623
Third Quarter ..	49 ..	121 ..	170 ..	632
Fourth Quarter ..	41 ..	106 ..	147 ..	577
Total for Year 1909	205	455	660	2367

In the previous year the figures were: total vaccinations, 659, exemptions, 2,401; or just about the same as in 1909.

The vaccinations in 1909 amounted to 12·1 per cent. of the births registered, whilst the exemptions amounted to 43·6 per cent.

The number of vaccinations and exemptions in previous years is given in Table XIX.

SCARLET FEVER.

(Cases, 1,768; Deaths, 23.)

The year 1909 has been another bad year as regards the prevalence of scarlet fever, no less than 1,768 cases being notified, an increase of 562 as compared with the previous year. The disease was widespread throughout the Borough, all districts being more or less affected. Fortunately the prevailing type of the disease was mild, and the number of deaths was 23, equivalent to a fatality of only 1·3 per cent., this being the lowest rate for several years. The average for the four previous years was 2·6, or just twice as high.

During the first quarter of 1910 there has fortunately been a very marked diminution in the prevalence of the disease, whilst the favourable type has been continued.

The number of patients removed to hospital was 1,166, or 65·9 per cent. of the number notified, which is slightly less than in the two previous years.

In the early part of the year under review an outbreak of scarlet fever occurred at the Receiving Home, Mill Hill Lane, a Poor Law Institution, and altogether twenty cases occurred. They were all removed to the Borough Isolation Hospital, and in accordance with the terms of their agreement with the Corporation, the Guardians paid for their maintenance there at the rate of 15s. per case per week.

"SECONDARY" AND "RETURN" CASES.

One of the disappointing features of hospital isolation in this disease is that in spite of removing a large proportion of all cases notified to hospital immediately upon receipt of notification, the proportion of "secondary" cases—*i.e.*, further cases occurring subsequently to the first or "primary" case—remains very high.

A "return" case is a special form of secondary case, and implies a secondary case occurring in a house subsequent to and within six weeks of the *return* home of a patient from hospital. In such cases, in the absence of any other obvious source of infection, it is reasonable to regard the patient returned from hospital as the probable source of infection. In a large proportion of these "return" cases it is found on inquiry that the returned patient has, subsequently to coming home, developed a discharge from the nose or ear, and it would seem probable that these complications are liable to be accompanied by a recrudescence of infectivity.

The proportion of return cases (on cases discharged from hospital) during 1909 was 7.1 per cent. This is rather higher than usual. It has been noticeable, however, that the proportion of return cases increases with an increased prevalence or "epidemicity" of the disease. The proportion is also higher than would have been the case if a shorter interval had been taken than six weeks from the return home of the first patient. Also, no attempt has been made to exclude cases, even though some other possible source of infection exists.

In Table XXIII (*a*) are given particulars of "return" cases during the past five years.

PREVALENCE OF SCARLET FEVER IN PAST YEARS.

Although scarlet fever has been much more prevalent in Leicester during the past five years than in the previous quinquennium, a comparison carried back for the whole of the thirty years during which notification has been in force in the Borough shows that, in proportion to population, the disease has in reality been no more prevalent than was the case in earlier years.

In this connection allowance must be made for the fact that prior to the year 1900 a local Notification Act was in force, under which only the first case occurring in a house had to be notified. The figures, therefore, indicate the number of infected *houses*,

whereas since 1900, when the general Notification Act was substituted for the Local Act, they indicate the number of infected *persons*. If further or "secondary" cases arose in a house they were not notified, and therefore were not included in the returns, whereas now they are included, and the totals appear proportionately greater. Careful records have been kept of the number of "secondary" cases occurring during the past five years, and the average proportion of primary to secondary cases is almost exactly four to one. Assuming that the same proportion existed in the earlier years, an addition of one-fourth the number of notified cases in each year prior to 1900 must be made in order that a fair comparison with later years may be instituted.

SCARLET FEVER.

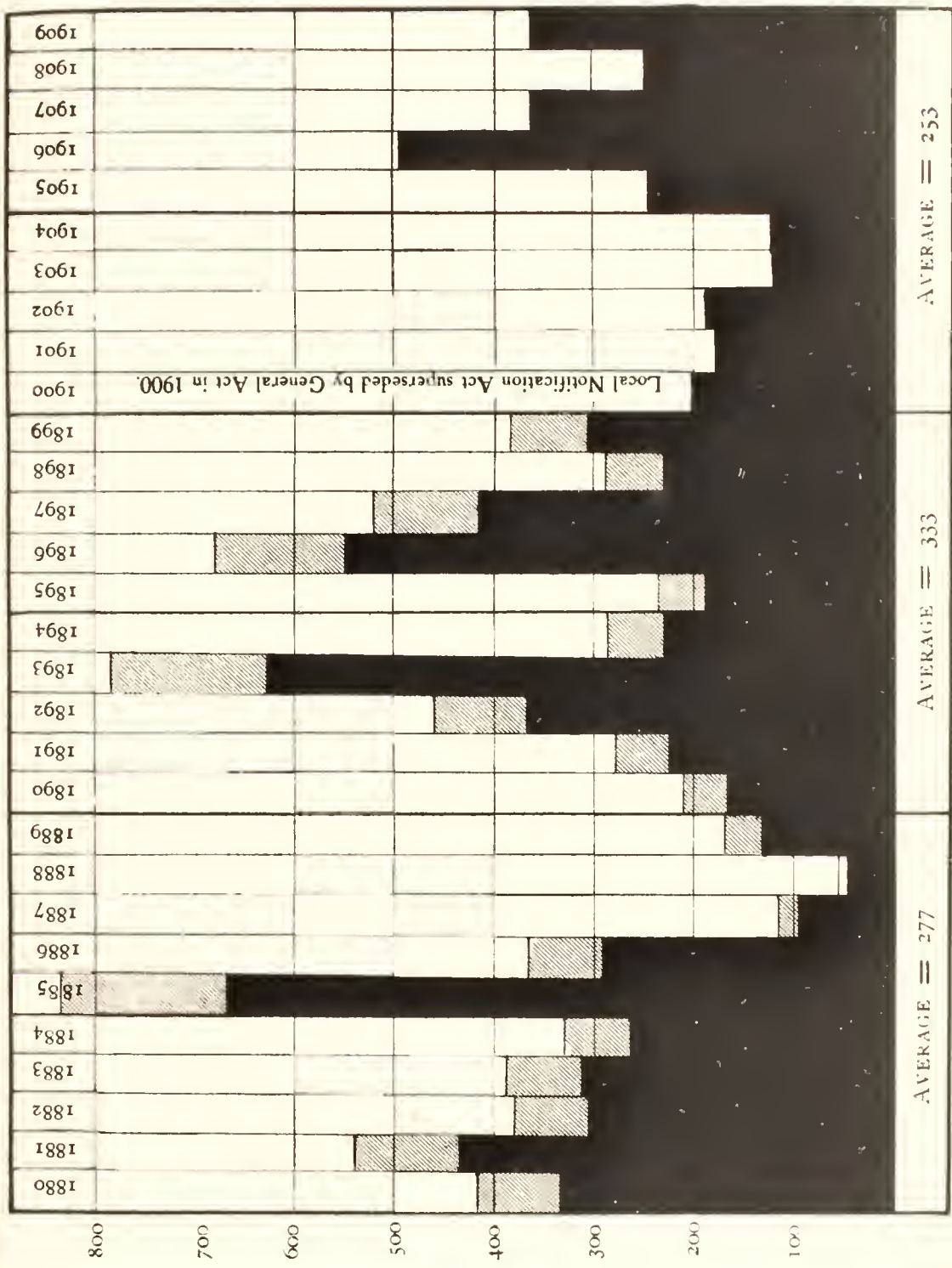
Prevalence in Leicester.

Quinquennial Period.	Cases Notified per 100,000 Population.	Cases Notified per 100,000, <i>plus</i> one-fourth allowed for Secondary Cases prior to Year 1900.
1880—84	655	819
1885—89	152	565
1890—94	660	825
1895—99	671	839
1900—04	325	325
1905—09	686	686

Average Attack-rate per 100,000 during the thirty years, 1880-1909 (making allowance for secondary cases): 676.

From these figures it will be seen that the prevalence of scarlet fever during the past five years has in reality been about the same as during the whole thirty years during which notification has been in force, whilst in three of the preceding quinquennia it has been considerably greater. Whilst such a result is certainly disappointing in view of the great efforts which have been made to check the spread of the disease, it is evident that there is no real ground for thinking that during the past few years it has been any more prevalent than formerly.

Per 50,000 Population. For 30 Years: 1880 - 1909.



N.B.—Prior to 1900 only primary cases in a house were notified.
The shaded portions of columns represent an addition of one-fourth for secondary cases not notified.

DIPHTHERIA.

(Cases, 140; Deaths, 14.)

It is satisfactory that the number of cases of diphtheria reported was lower than it has been for thirteen years, with the exception of one year, 1904. The number of deaths was fourteen, yielding a fatality of 10 per cent., which is slightly higher than in the past four years.

The number of patients removed to hospital was 83, or 59·3 per cent. The chief advantage of removal to hospital is the better treatment that the patients can receive in a special institution, especially when operation may be necessary, compared with what is usually possible in a working-class dwelling. It is also of course a great convenience to the relatives. In non-epidemic times the disease is not very infectious, and shows but little tendency to spread to other members of the family. Last year, a second case occurred in the same house in only seven instances, or 5 per cent.; moreover, three of these occurred in one house. There were three other instances where two cases in a house were notified simultaneously.

In all cases of diphtheria the house drains are tested with the smoke machine or grenade, and although it not infrequently happens that some slight defects are discovered, it is very seldom that these are of a nature to suggest that they are responsible for the outbreak. A common defect present in old cottage property is a faulty union between the drain and the yard gully which receives the waste from the scullery sink, allowing smoke and therefore also drain emanations to escape at this point. It is very seldom that any escape is detected inside dwellings.

ENTERIC FEVER.

(Cases, 36; Deaths, 5.)

One of the most satisfactory features in the health statistics of Leicester is the steady and continuous decline in the prevalence of enteric fever.

A high rate of prevalence of this dreaded disease is rightly looked upon as a reflection upon the sanitary condition of any locality, and, *vice-versa*, a low rate of prevalence indicates good sanitation. The causes that conduce to the spread of the disease are largely known, and with the advance towards sanitary perfection the disease is gradually disappearing.

Success in this respect, however, is being attained much faster in some localities than in others, Leicester being a notable example of a successful town.

Whilst much has been done during the past thirty years towards improving the sanitary condition of the town, one special measure stands out conspicuously, viz., the abolition of the conservancy system of excrement disposal, *i.e.*, the conversion of pail closets to water closets. A special scheme for this purpose (*see* Part III) was begun in 1898, and in the five years, 1898-1902, over 5,000 pail closets (including some privies) were converted into water closets. Since 1902, rather more than another 1,000 pail closets have been similarly converted. It is a very striking fact, the significance of which cannot be disregarded, that following upon the carrying out of this scheme, there has been a very remarkable decrease in the prevalence of enteric fever, which so far promises to be permanent.

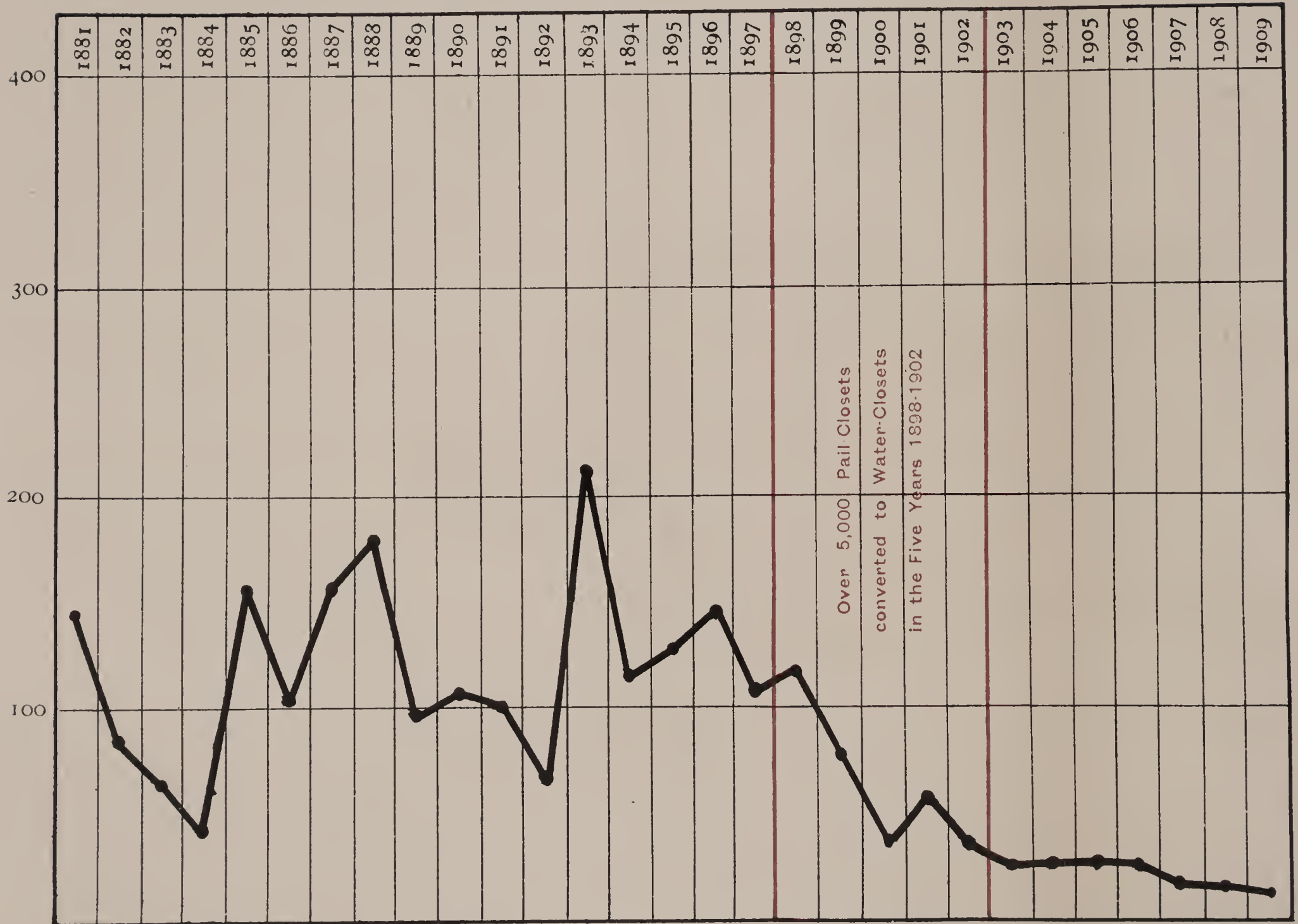
This decrease will be best appreciated by reference to Diagram VI, which shows graphically, over a long series of years, the attack-rate per 100,000 from this disease. It will be seen that prior to the beginning of the pail conversions, which began in 1898, little real improvement had been effected, big fluctuations occurring year by year. With the beginning of the conversion scheme, however, a decrease set in and continued throughout the five years during which the great majority of the pails were done away with. But what is most remarkable and most satisfactory is that the incidence of the disease has since then continued permanently low.

It is not necessary to ascribe the whole of this great and beneficent reduction to the abolition of pail closets. Doubtless other factors, as the carrying out of an entirely new main drainage scheme, and the abolition in earlier years of privy middens, may have contributed. Moreover, by no means all the cases of enteric fever, which occurred in the years prior to the pail conversions, were found associated with houses with pail closets, although an undue proportion were. But the coincidence between the abolition of the pails and the marked decrease in enteric fever is too great and too remarkable to be ignored, and constitutes one more piece of evidence in favour of getting rid, at almost any cost, of the objectionable and insanitary pail closet.

DIAGRAM VI.

ENTERIC FEVER IN LEICESTER

Attack-Rate per 100,000. Showing marked Decrease following Abolition of Pail-Closets.



THE EXPERIENCE OF LEICESTER AND THE REPORT OF THE MEDICAL OFFICER TO THE L.G.B.

The happy experience of Leicester in regard to enteric fever is referred to at some length in the Annual Report of the Medical Officer to the Local Government Board (Dr. Newsholme) for the year 1908-9 (p. xxvi), where a comparison, very favourable to Leicester, is drawn with the neighbouring City of Nottingham.

Dr. Newsholme points out that whereas in Leicester pail closets have been abolished, in Nottingham they have been retained, and "pail closets still serve more than half the houses in the city. Comparing these facts with the experience of the two towns in regard to disease we find" (and he gives a table of figures supporting this) "that a much larger reduction of enteric fever is shown in Leicester than in Nottingham, and Nottingham, unlike Leicester, shows no reduction in diarrhoeal mortality. Comparing the first with the last quinquennial period (1889-93 with 1904-08) the diarrhoea death-rate has fallen 30 per cent. in Leicester, and has increased 17 per cent. in Nottingham; whilst the death-rate from enteric fever has fallen 78 per cent. in Leicester as compared with 43 per cent. in Nottingham. . . . A gigantic experiment has been performed in these two communities under circumstances which enable fairly trustworthy comparison to be made, and at the present time it remains true that in Nottingham a large number of deaths from diarrhoea and from enteric fever are occurring year by year, which would cease to occur were this city in every part of it to adopt, like Leicester, a more cleanly system of disposal of excremental matter."

ENTERIC FEVER AND MUSSELS.

In my last Annual Report the question was discussed of the possibility of this disease being conveyed through eating mussels taken from beds liable to pollution by sewage, and it was pointed out that in a considerable proportion of the cases of enteric fever notified in Leicester in the mussel season of 1908-9, there was a history of the patient having recently eaten mussels. Similar evidence, tending to bring this class of shell-fish under suspicion, has been forthcoming from some other towns, notably from Birmingham, and as a result there is reason to hope that more care has been exercised as to the source from which mussels are obtained. During the past mussel season, *i.e.*, from October, 1909, to March, 1910, inclusive, only eleven cases of enteric fever

were notified in Leicester (against thirty-four in the previous mussel season), and in only one case was there any history of the sufferers having eaten mussels. In one other case, however, cockles, and in a third case, oysters, had been eaten.

MEASLES.

The severe epidemic of this disease which began in the last quarter of 1908, continued through the early months of the year under review, with the result that 109 deaths were caused by it in 1909; 101 of them being in children under five years of age.

It may be well to repeat briefly the present practice in Leicester as regards *School Attendance* in the case of this disease.

Owing to the fact that the great majority of the cases and almost all the deaths occur in young children, whilst older children (most of whom have already had the disease) generally escape, a distinction is drawn between children attending Standard III and upwards, and those below Standard III.

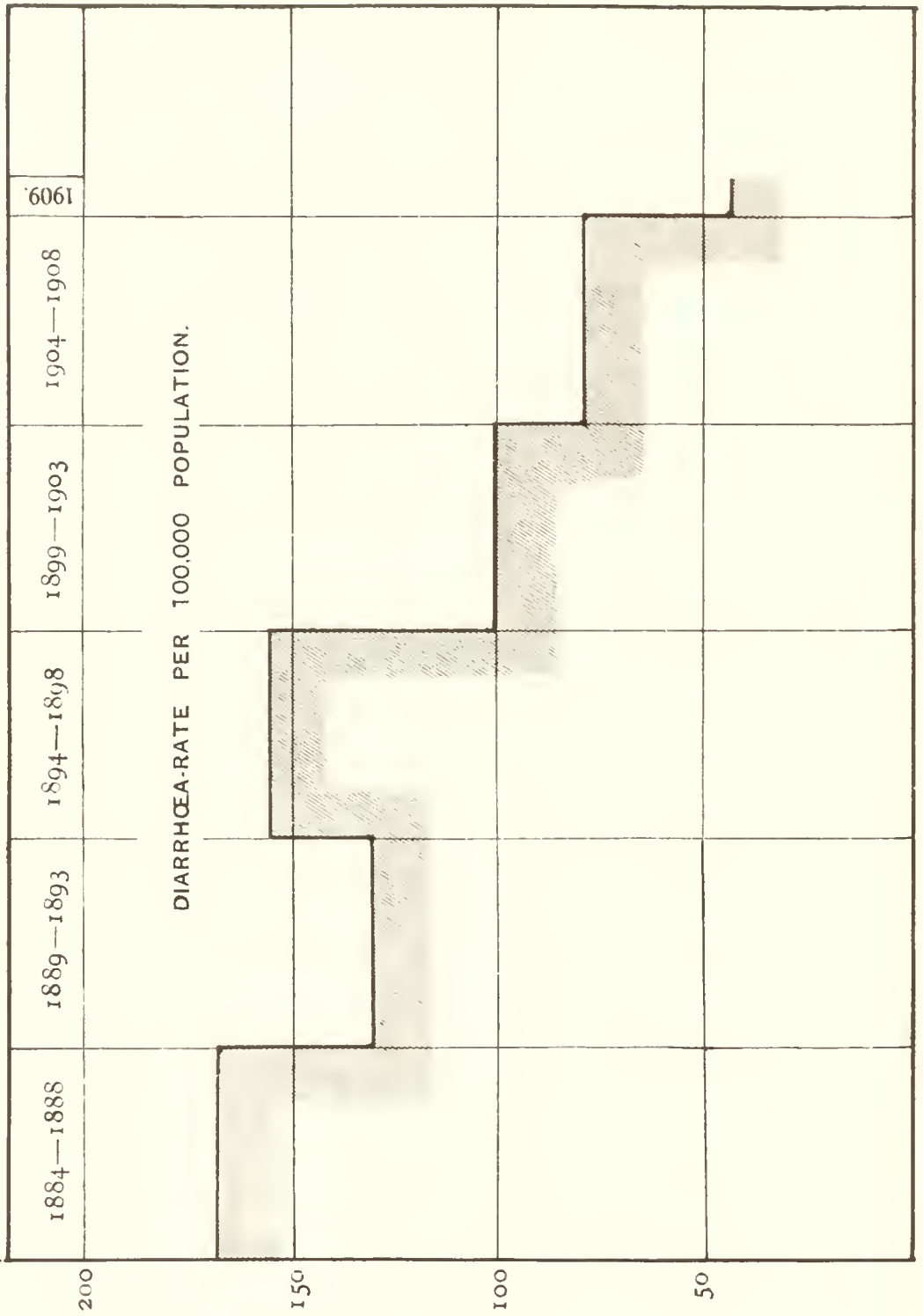
Where measles breaks out in a family, the actual sufferers are not allowed to return to school for four weeks; children below Standard III are kept from school until two weeks after the onset of the last case; whilst children in Standard III and upwards, provided they have already had the disease, are allowed to continue school attendance.

Formerly it was our practice to exclude all children in houses infected with measles from school, and this, during epidemics of measles, caused very serious interference with education. The present practice, which it may be observed is in accordance with the recommendation of the International Conference on School Hygiene, is in my opinion satisfactory so far as prevention of spread of infection is concerned, whilst it causes very much less interference with education.

WHOOPIING COUGH.

The number of deaths caused by this disease was 51, which is about the average of the last ten years. All but two were in children under five years of age. Whooping cough is certainly one of the most serious zymotic diseases in this country, coming next to diarrhœa and measles in order of severity. During the past five years in Leicester, 768 deaths were attributed to diarrhœa, 469 to measles, and 257 to whooping cough. As in the case of measles, many of the deaths are due to lung complications, which

DIAGRAM VII.
 SHOWING DECREASE IN MORTALITY FROM DIARRHŒA IN LEICESTER
 (Quinquennial Average).



might be prevented by more care in nursing, and for this reason it is most desirable that the disease should never be regarded lightly or as of little consequence. It is specially important also that very young children should be shielded from catching the disease, as in their case the fatality is so much higher than in the case of older children.

ERYSIPELAS.

There were 196 cases of this disease notified, and six deaths were registered as due to it. Most of the deaths from erysipelas occur in elderly persons.

DIARRHŒA.

Once again I am able to record that the severity of the annual epidemic of this fatal complaint was much below the average. It is true that the past summer was an abnormally cool one—and this fact undoubtedly conduced very largely to the comparatively small number of deaths from diarrhœa. But the welcome shrinkage in mortality has now continued for too many years for it to be attributable solely to the fluctuations in the meteorological conditions. I feel satisfied that a real and permanent improvement is being effected. A glance at Diagram VII, showing in graphic form the average Diarrhœa-rate in successive quinquennial periods during the past thirty years, makes it quite clear that in the past decade a very substantial reduction has been effected.

The advantage of comparing the averages of periods, say, of five years, is that thereby the fluctuations of individual years, due to meteorological conditions, are obliterated, and a much fairer comparison can be made.

In the diagram the rates are proportionate to population, but even if no allowance is made for increase in the size of the Borough, a great reduction has still been effected. Thus the average annual number of deaths from diarrhœa in the three quinquennia ending 1908 has been 300, 212 and 187, and in 1909, as stated above, the number was only 106.

PUERPERAL FEVER.

(Cases, 8 ; Deaths, 4.)

Under the heading of puerperal fever are included all deaths from septic causes occurring during the puerperium or lying-in period, and registered under such names as " puerperal septicaemia, or sapræmia," pelvic peritonitis, &c.

It is satisfactory to record that these cases are not numerous, and during the last few years, have shown a tendency to decrease.

Year.	Cases.	Deaths.
1904 ..	16 ..	5
1905 ..	20 ..	7
1906 ..	10 ..	4
1907 ..	10 ..	2
1908 ..	12 ..	2
1909 ..	8 ..	4*

The number of fatal cases in 1909 was four, and none of these occurred in the practice of a midwife.

During the past four years, 1906-9, there have been 22,510 births registered in Leicester, and only twelve fatal cases of puerperal fever. This amounts to one in every 1,875 births, a highly satisfactory record.

PHTHISIS (Pulmonary Consumption).

Phthisis caused 290 deaths during the year, the average for the previous five years being 308. Usually more males than females fall victims to this disease, but last year the numbers were almost exactly equal. 255 of the deaths were persons over twenty years of age.

VOLUNTARY NOTIFICATION

The voluntary notification of phthisis was begun in Leicester in October, 1902, medical men being invited to notify all cases of pulmonary tuberculosis (other than moribund cases, or cases already notified), occurring in their practice. The same fee is paid for notification as under the Infectious Diseases (Notification) Act, 1889, viz., 2s. 6d. for cases occurring in private practice, and 1s. for cases occurring in public institutions.

The result has certainly been satisfactory, the number of notifications received each year being shown below, as also the number of deaths caused by the disease, the latter giving a rough indication of the average number of cases occurring each year:—

Year.	Cases of Phthisis notified by Medical Men.	Deaths from Phthisis
1903 ..	156 ..	266
1904 ..	182 ..	353
1905 ..	225 ..	288
1906 ..	215 ..	339
1907 ..	212 ..	275
1908 ..	197 ..	287
1909 ..	172 ..	290
	1,359	2,098

*One of these cases was a miscarriage, and in order to be comparable with previous years should not have been included under this head.

During the seven years, therefore, 1,359 cases have been notified, whilst 2,098 deaths have occurred, and assuming that the number of fresh cases occurring approximately equals the deaths, we may conclude that about 60 per cent. of the cases occurring are notified.

POOR LAW NOTIFICATION,

With the beginning of the year under review, the Public Health (Tuberculosis) Regulations, 1908, came into operation, under which the notification of all cases of pulmonary tuberculosis occurring amongst the inmates of Poor Law Institutions, or amongst persons in receipt of Out-door Medical Relief, has now been made compulsory. This notification has to be made, on special forms, by the Poor Law Medical Officers; and it is also made obligatory on the Superintending Officers of Poor Law Institutions, and on the Relieving Officers to notify any changes of address of patients already notified.

Provision is made for remuneration by the Local Authority to whom the notifications are sent, as follows:—Medical officers, one shilling for each notification (sixpence for a second notification of the same case); Superintending and Relieving Officers, three-pence for each notification.

In towns like Leicester, where a voluntary system of notification, as indicated above, was already in operation, the new Regulations are not, of course, of the same value as would otherwise have been the case. It is inevitable that a large proportion of the cases notified by the Poor Law Medical Officers will already have been notified voluntarily at some previous period in their career, before they had to resort to the Parish for assistance. Moreover, these Poor Law notifications chiefly relate to cases in a more or less advanced stage of the disease.

SANATORIUM TREATMENT OF PHTHISIS PATIENTS.

For the past seven years a certain amount of accommodation has been reserved for consumptive patients at the Borough Isolation Hospital. The number of beds at present available is sixteen, nine for males and seven for females, situated in what was originally intended as an "isolation" block, and consisting of a number of small wards opening on to glass-covered verandahs.

The patients sleep out on these verandahs summer and winter. Glass-covered shelters, which serve also as "sun-traps," have been erected in the grounds. The open-air treatment is thoroughly carried out, combined with light employment, such as gardening, carpentering, &c. The effect upon the patients' health is very noticeable. Marked improvement usually sets in almost at once; the patients begin to put on weight, often to a surprising degree; the general health and strength improves; and symptoms such as cough, expectoration, night sweats, &c., diminish or disappear altogether. In some cases it is necessary to keep the patients in bed for a week or ten days, until the temperature has fallen to normal. The period for which patients are allowed to remain varies from one to three months, or in special cases even longer, according as they continue to improve, and depending also, to some extent, upon the number of patients awaiting admission.

No charge is made for the first month of treatment, but if patients stay for a second month, a charge of 10s. per week is made. If the patient is a subscriber to the Saturday Hospital Society, as very many members of the working classes in Leicester are, the latter Society defrays this charge for them. If patients are kept for a third month no charge is made.

The number of phthisis patients admitted to the Groby Road Hospital, and the average days' stay, for each year since the practice was established, is shown below:—

Year		Patients Admitted.		Average Days' Stay.
1903	..	63	..	39·5
1904	..	121	..	31·6
1905	..	157	..	37·3
1906	..	69	..	56·0
1907	..	82	..	65·6
1908	..	91	..	60·8
1909	.	104	..	53·5

FAMILY HISTORY OF PERSONS SUFFERING FROM PHTHISIS.

The following particulars as to family relationships have been obtained by the Women Inspectors in the course of their visitation

of consumptives. The number of instances is shown in which other members of the same family have, so far as is known, been sufferers from the disease.

Relationship.	No. of Instances.
(1) Father or mother [in 8 of these a brother or sister affected, but these are not included in (2)]	29
(2) Brother or sister (in 4 cases more than one) ..	37
(3) Uncle or aunt (no nearer relative) ..	17
(4) Husband or wife [in 3 cases a son or daughter also affected, but these are not included under (5)]	10
(5) Son or daughter	3
(6) Grandparents (no nearer relative) ..	1
(7) No history of consumption in family ..	68
Total cases investigated ..	165

As the question of family history in connection with this disease is of special interest and importance, the corresponding figures for previous years have been summarised and are shown in Table XXVIII.

INSTITUTIONAL TREATMENT OF ADVANCED CASES OF TUBERCULOSIS.

The time is certainly approaching when provision will have to be made for the institutional treatment of all cases of tuberculosis when proper facilities for treatment at home do not exist. This is necessary in the interests of the community rather than of the patient, though the latter would stand to benefit greatly.

It is now becoming more and more recognised that consumption is infectious, especially in the later stages when the lungs are breaking down. No one, who consulted the interests of the rest of his household, would willingly give house-room to a person dying of consumption unless better facilities existed for nursing, isolation and the taking of precautions against infection, than are usually to be found in a working-class family.

It is true that a limited amount of accommodation for advanced cases of consumption exists at the Poor Law Infirmary, but this only provides for a small proportion of the total. Many cases are not eligible, and many of those who might be admitted decline to go there, for reasons which are practically unavoidable under our present Poor Law system.

During 1909, out of 290 deaths from consumption, only 53 occurred in the Poor Law Infirmary, four others occurring in the General Infirmary, and nine at the Borough Asylum, leaving 224 deaths occurring at home. Taking the figures for the past ten years, we find that only 246 deaths out of a total of 2783 occurred in public institutions, or less than 10 per cent.

There is also the case of consumptive children. The present position is most unsatisfactory. Parents are generally most anxious and willing to get such cases away to an institution, where such is available, partly for the child's own sake, and partly for the sake of other children who must necessarily be brought into very close and prolonged contact with the affected child—sometimes having to share the same bed!

On theoretical grounds there is an undeniably strong case to be made out in favour of the entire public care of consumptive patients, at all ages and in all stages, being taken over by the Public Health Authorities, as recommended in the Minority Report of the Royal Commission on the Poor Law. The practical difficulties are undoubtedly great, and there are also other objections, but the desirability of more being done in the way of isolating consumptives, both in the interests of the community as well as of the patients, is incontestable.

RESULTS OF THE TREATMENT AT THE BOROUGH HOSPITAL.

The dis-appointing side of sanatorium treatment is that in very many cases the improvement made whilst at a sanatorium is lost, sooner or later, after returning home. This has been our experience in Leicester. It is remarkable how rapidly some patients will begin to "go back" on returning to the old environment. In some of these cases, no doubt, this may be due to insufficient or unsuitable food, consequent upon lack of means. But in other cases the cause is much less obvious, and a patient may begin to lose flesh at once, even though well fed and cared for.

Cases are not wanting, however, where the improvement gained proves lasting or even permanent, and the patient is able to resume his or her ordinary occupation.

The following are some of the more satisfactory cases treated in 1909, the date at which the reports were received being April, 1910 :—

SARAH O——, age 36, married, one child ; hosiery hand. Right lung affected ; spitting of blood. Father died from phthisis. Was admitted to the Borough Sanatorium in January, 1909, and remained there for twelve weeks. Improved greatly, putting on 31 lbs. in weight, and physical signs of disease entirely disappearing. Since leaving has been back at work for ten months. Health good until recently, when she " went back " a little. Continues to keep up the treatment as far as possible ; " has a quart of milk a day, and a cold sponge every morning."

ALWYN A——, age 31, married, tailor. Admitted to Groby Road in January, 1909. Had had hæmorrhage from the lungs three months before, which lasted for several days. Right lung found to be affected. Remained for ten weeks, and improved greatly. Has been at work ever since, and health has continued good.

MARION S——, age 17, hosiery hand. Admitted in May. Pleurisy four months previously ; very early case. Remained at Sanatorium for three months, and left with no symptoms of the disease present. Has since been back at work for six months ; health has continued good and has increased in weight. " Is very grateful for all the kindness shown to her."

GEORGE S——, age 18, hosiery trimmer. Admitted to Sanatorium in May. Early case. Lost a brother from phthisis. Remained for three months, improving greatly, and gaining 20 lbs. in weight. Has since been back at work for four months, but fears his occupation does not suit him. Would like to get an out-door occupation, but has been unable to do so.

CHARLES A——, age 28, single, metal pattern maker. Admitted in August. Hæmorrhage twelve months before. Left apex affected. Remained for five months as a special case. All symptoms disappeared. Since leaving has taken up gardening, health is keeping good, and weight continues to increase.

ERNEST M——, age 36, married, five children, carpenter. Admitted in 1908, discharged early in 1909. Had recently suffered from pneumonia and pleurisy. Remained for eleven weeks, putting on 19 lbs. Has been back at work since, and is keeping well.

Continues to carry out the principles of the treatment as far as he can. He writes: "I am pleased to say that I feel better now than ever I did in all my life before, and owe my condition to the grand treatment at the Sanatorium."

JOHN G——, age 23, single, boot trade. Admitted in November. Has suffered from pleurisy and hæmorrhage. Lost both father and a brother from phthisis. Remained twelve weeks, improving considerably. Has since been working as a window-cleaner, and is keeping in good health.

GEORGE C. H——, age 22, single, tailor. Admitted in February, 1909. Had a cough for three months. Has lost a sister from phthisis. Remained for eight weeks, improving greatly. Has been back at work for twelve months, and is keeping quite well.

ARTHUR S——, age 16, mineral water trade. Admitted February, 1909; early case. Hæmorrhage from the lungs three months previously. Remained four weeks and improved considerably. Has been back at work since, is now in the best of health, has increased in weight, and has "not had an hour's illness since he left."

CLARA B——, age 29, married, two children. Left apex and base affected; several attacks of spitting of blood before admission. Had been ill three months. Father died from phthisis. Was at Borough Sanatorium for eight weeks in the early part of 1909. Great improvement, gaining 17 lbs. in weight. Since leaving Sanatorium has kept fairly well, and has been at work for seven months, only losing three pounds in weight. Is "very thankful for the treatment received" and is carrying out the principle of the open-air treatment as far as possible.

ELLEN B——, age 27, married, one child. Admitted to Hospital in April, 1909, and remained for five weeks. Made some improvement, and has been able to do her ordinary household duties since. Is "very thankful for what was done for her, and is sure she derived great benefit from the treatment."

LEONARD H——, age 23, single, warehouseman. Right apex affected. Hæmorrhage from lungs a month before admission. Suffering also from heart disease. Admitted to Hospital in March, 1909, and remained four weeks, improving considerably. Since leaving has been at work for nine months, and states that his health has been good. Continues to carry out the open-air treatment as far as his work allows.

GRACE A——, age 20, single, shoe machinist. Has lost her father, mother, sister, and several of her mother's family from phthisis. Both lungs affected. Has had pleurisy. Was admitted to Hospital in March, 1909, and remained for twelve weeks, but some physical signs of disease still persisted. Since returning home has done ten months' work and is keeping fairly well. Is grateful for the kindness she received at the Sanatorium, as she "received great benefit from it."

JOSEPH B——, age 29, postman, married, one child. Admitted to Hospital in March, 1909. Hæmorrhage from the lungs twelve months before. Remained for twelve weeks, improving greatly and gaining 15 lbs. in weight. Subsequently went to Torquay. Has since been back at work for nine months, health has continued good, has lost no time, and weight has been maintained.

KATHLEEN G——, age 25, married, one child. Admitted in April, 1909. Had never been well since baby was born, two years before. Hæmorrhage from lungs three months ago. Has a sister suffering from same disease. Left apex found to be slightly affected. Remained for five weeks, improving considerably and putting on 6 lbs. Has since been able to do house work, has not "gone back" at all, but has increased in weight. Is very grateful for what was done for her, and feels that she owes her present state of health to the treatment she received.

PART III.

GENERAL.

ADMINISTRATION OF FACTORY AND WORKSHOPS ACT, 1901,

In connection with Factories, Workshops, Workplaces, and Home Work.

1.—INSPECTION OF FACTORIES, WORKSHOPS and WORKPLACES,

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR INSPECTORS OF
NUISANCES.

Premises. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Prosecutions. (4)
Factories	23	10	None
Workshops	841	40	None
Workplaces	None	None	None
Total	864	50	None

2.—DEFECTS FOUND IN FACTORIES, WORKSHOPS and WORKPLACES.

Particulars. (1)	Number of Defects.			Number of Prosecu- tions. (5)
	Found. (2)	Remedied. (3)	Referred to H. M. Inspector. (4)	
Nuisances under the Public Health Acts :				
Want of Cleanliness ...	44	44	None	None
Want of Ventilation ...	5	5	„	„
Other Nuisances	45	38	„	„
Sanitary Accommodation Insufficient	10	10	„	„
Offences under the Factory and Workshop Act ...	None	None	„	„
Total	104	97	None	None

3. HOME WORK.

The number of lists received from employers was as follows :—

	Twice in the Year.		Once in the Year.	
	Lists.	Outworkers.	Lists.	Outworkers.
Wearing Apparel (making)	64	1,541	65	1,090

The number of addresses of out-workers received from other Councils was 54.

The number of addresses of out-workers forwarded to other Councils was 449.

The number of inspections of out-workers' premises was 665. Only in three instances were cases of notifiable infectious disease discovered at the time of the inspection, together with thirteen cases of phthisis. In addition to these, however, home-work was found to be carried on in 121 houses visited on account of a case of infectious disease having been notified. In these cases, if the patient is not removed to hospital, the work is temporarily discontinued.

4. REGISTERED WORKSHOPS.

The number of workshops on the Register is 900.

5. OTHER MATTERS.

Cases notified by H.M. Inspector as remediable	
under the Public Health Act	26
Reports (of action taken) sent to H.M. Inspector . .	20
Underground Bakehouses in use at end of year	3

ADMINISTRATION OF THE MIDWIVES ACT, 1902.

During the year three midwives have ceased to practise and two others have begun to practise, leaving 35 certified midwives practising in the Borough at the end of 1909, as against 36 at the beginning of the year. Seven midwives, most of these being women who have not been long in practice and therefore are comparatively little known, are at present doing very little, having attended less than a dozen cases each during the year.

The approximate number of births attended by midwives during the year, as ascertained by examination of the Midwives' Case-books, was (a) by certified midwives, 2,220 ; (b) by uncertified, 190 ; total, 2,410.

On March 31st, 1910, the time-limit for unregistered midwives expires, and it will thereafter be illegal for any unregistered midwife to practise midwifery for gain. Hitherto, unregistered women could practise, provided they did not use the title of "midwife."

The number of midwives about to be debarred from practice is not large so far as Leicester is concerned, viz., only five. One of these, who is doing a considerable practice, has been studying for the examination of the C.M.B., and hopes shortly to qualify. Three of the others are old women, with small practices, and only attend occasional cases. Consequently, the effect of the expiration of the time-limit will be but small, and will make no appreciable difference to the supply of midwives in the Borough. I am glad to say that the fear that a shortage of midwives might possibly occur has not been realised, and I am satisfied that the existing supply is quite adequate as regards numbers for the needs of the population. Only a small proportion of the midwives in the town are fully occupied, as is seen from the following figures, showing the number of cases attended by midwives during 1909 :—

Number of Midwives.				Cases attended during year.
1	..	..	..	over 200
1	..	..	..	.. 175
1	..	..	..	.. 150
2	..	..	..	.. 125
3	..	..	..	.. 100
2	..	..	..	.. 75
10	..	..	..	.. 50
5	..	..	..	.. 25
10	..	..	..	less than 25

Speaking generally, a midwife can satisfactorily attend about 100 confinements per annum, so it is evident from the above figures that many more births might be attended by the existing supply of midwives than is the case at present.

INSPECTION OF MIDWIVES.

The practising registered midwives, with but few exceptions, have been interviewed twice during the year, and their case-books and midwifery bags inspected. On the whole, they were found to be satisfactory.

The inspections take place at the Town Hall, in the Medical Officer of Health's office. A circular is sent out a few days beforehand requesting attendance and giving the choice of several days, at certain specified hours, in order to render attendance as little inconvenient as possible.

The system of voluntary notification of births attended by midwives continues to work very satisfactorily, and 1990 notifications were received. The midwives are supplied with books of

stamped addressed forms, so that the trouble involved is only slight. The majority of the returns are received within a few days of the date of birth.

The number of *still-births* notified by midwives under the Act was 85.

The total number of burials of still-born children at the Borough Cemeteries was 249.

The number of intimations of having advised the calling in of medical help was 38.

Several of the midwives are still very reluctant to advise calling in medical help, and it is to be feared that the rules of the Central Midwives' Board are not quite as strictly adhered to in this respect as they should be. Special pains have been taken to impress upon them their duty in the matter.

One midwife was reported to the Sanitary Committee for neglecting to advise that medical advice should be obtained in a case of ophthalmia in an infant, and for insufficient attendance. A special sub-committee was appointed to investigate the case, and as a *prima facie* case of negligence was established, it was decided to lay the particulars before the Central Midwives' Board. (The midwife has since been struck off the Roll.)

PUERPERAL FEVER.

Only two cases of puerperal fever occurred in the practice of midwives during the year, and fortunately neither of these proved fatal. Such a record is very satisfactory, in view of the large number of births attended by midwives; and especially when we consider the very unfavourable surroundings and absence of proper conveniences which too often obtain amongst many of the cases attended by midwives. In one of the two cases mentioned above, the child was born before the midwife arrived on the scene.

THE NOTIFICATION OF BIRTHS ACT, 1907.

This Act has not yet been adopted in Leicester, although the proposal to adopt it has several times been discussed both by the Sanitary Committee and by the Town Council. Strong opposition to its adoption exists in certain quarters, and a petition against it, signed by all the medical men practising in the town, has been presented.

Judging from the smooth working and absence of friction in most towns where the Act is in force, there is, in the writer's opinion, little real ground for the opposition of the medical men,

so far as any likelihood of local difficulty is concerned. It is contended, however, that a question of principle is involved, in that the Act lays a duty upon professional men under penalty without the provision of any remuneration.

In the meantime, in Leicester, the voluntary notification by midwives of all births they attend (referred to above), supplies almost all the important information which would be likely to be obtained by the adoption of the Notification of Births Act.

DISINFECTION.

The method of disinfection for infected rooms at present carried out in Leicester is (*a*) by formaldehyde gas generated from solid paraform; (*b*) by spraying with solutions of formaldehyde. The number of houses or parts of houses disinfected during the year was 2,159.

Steam Disinfecting Station.—This is situated at the Mill Lane Destructor, being removed thence from the old fever hospital on Freake's Ground, after the latter was closed. During the year, the following articles of bedding, clothing, &c., from 135 houses were removed to the Station and disinfected, viz. :—

Mattresses	..	..	..	61
Beds	..	..	..	157
Pillows and Bolsters	..	..	..	496
Blankets	..	..	..	180
Counterpanes	..	..	..	84
Other articles	..	..	..	119

The nature of the infection on account of which the above articles were disinfected, was—

Scarlet Fever (nursed at home)	10 instances.
Enteric Fever	22
Phthisis (chiefly fatal cases)	103

CONVERSION OF PAIL CLOSETS TO WATER CARRIAGE.

Leicester is one of the progressive towns in which the old-fashioned and objectionable "conservancy" system of excrement removal has been replaced by the much more sanitary method of water-carriage.

The provision of water-closets in the case of all new houses has been obligatory in Leicester for over thirty-five years, so that it is only in the case of old property that the conservancy system was found. The Corporation was empowered to require the substitution of pail closets (or ash-closets) for privy middens under a Local Act in 1881, and a very large number of these pail closets

were then erected in accordance with this provision. By the Local Government Board's Provisional Orders Confirmation Act, 1896, however, it was enacted (Article III) that the Corporation might by written notice served on the owners require any existing closet accommodation to be converted into a water-closet. If the owners failed to comply with the notice the Corporation were empowered, after the lapse of a certain specified time (not being less than thirty days), to do the work of conversion themselves, and to sue the owner for the cost.

The Corporation were authorised to contribute towards the expense of conversion, and this provision was in almost all cases resorted to and undoubtedly greatly facilitated the work in offering an inducement to property owners to make the desired alteration. The amount of the contribution thus made has varied from a minimum of 30s. upwards, each case being dealt with separately, and the expenditure entailed on the owner being taken into consideration. The amount of the contribution made by the Corporation has averaged £2 6s. per closet.

The progress of the scheme of conversion is indicated by the amounts paid in contributions to owners in different years. The scheme came into operation in 1897, and the first order was served in September of that year, but the actual conversions only began in 1898.

Expenditure.—Pail Closet Conversion Account.

Year.	Amount paid in Contributions.	Approximate No. of Pail-closets converted.*
1898 ..	£2,948 ..	1,270
1899 ..	£3,425 ..	1,475
1900 ..	£3,635 ..	1,566
1901 ..	£1,437 ..	619
1902 ..	£974 ..	419
Total for first five years	£12,419 ..	5,349
1903 ..	£640 ..	276
1904 ..	£462 ..	199
1905 ..	£281 ..	121
1906 ..	£294 ..	126
1907 ..	£78 ..	33
1908 ..	£249 ..	107
1909 ..	£133 ..	56
Total since beginning	£14,556 ..	6,267 [†]

*As calculated from the amount contributed on the basis of £2 6s. per closet.

†Includes 188 privies.

The negotiations with owners of property in connection with the work of conversion has been managed throughout by Chief Inspector Braley, assisted in special cases by the Chairman of the Sanitary Committee or Inspection Sub-committee. Mr. Braley's unfailing tact and courtesy, coupled with his long experience in the Borough and reputation for fair dealing, have been invaluable and have greatly facilitated the work, which in consequence has been accomplished with a minimum of friction or hostility on the part of property owners.

As regards the beneficial results of the scheme of conversion from a sanitary point of view, this has already been dealt with under the head of Enteric Fever (p. 32). Apart from this, however, the scheme has really proved an economy, as the saving in expense in collecting weekly the contents of the pail-closets more than covers the interest and sinking fund on the capital expenditure, provided by special loans, for contributions.

THE ISOLATION HOSPITALS.

The year 1909 proved another busy year for the Isolation Hospital on the Groby Road, although the Smallpox Hospital on the old Anstey Lane was not, happily, required to be in use. The total number of fresh patients admitted to the Groby Road Hospital was 1,332. As in previous years, a separate detailed report on the work of the Institution, together with Tables showing expenditure, will be found in Appendix II.

It is satisfactory to know that in spite of the apparently large annual cost of maintenance and upkeep of the Isolation Hospital, the Institution is really very economically managed, and that in proportion to the number of patients treated, the cost compares very favourably with other similar institutions. The following is quoted from the Borough Treasurer's *Abstract of Accounts* for 1909 :—

“ *Infectious Disease Hospital* :—As a contrast to those accounts which show considerable growth in cost, it is pleasant to turn to one where a comparison with the Accounts of similar institutions in other places affords the gratifying knowledge that the undertaking in Leicester is economically and satisfactorily managed.

“ Only recently statistics have been collated of the cost of maintenance and other expenses of inmates in Infectious Disease Hospitals belonging to several of the largest municipalities in this country, in Scotland, and in Ireland.

" From these figures it appears that the Leicester Hospital is maintained at the lowest charge per patient of any included in the statement. The hospitals showing the six lowest and the six highest charges are as follows :—

Hospitals.	Daily Average of Patient	Total Annual Expenditure.	Cost of each Patient per week.											
			Provisions.			Other Ex- penses of Main- ten- ance.			Total.					
			£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Leicester	161	6,391	0	0	0	3	8½	0	11	6½	0	15	3	
Birmingham	515	23,392	3	1	0	5	9	0	10	4	0	16	1	
Cardiff	129	5,170	9	3	0	3	9	0	12	7	0	16	4	
Bristol (Ham Green) ...	133	7,167	13	6	0	3	6	0	15	3	0	18	9	
Liverpool (South) ...	70	5,570	10	10	0	4	4½	0	18	4½	1	2	9	
Edinburgh	360	21,930	18	4	0	1	9	0	18	6	1	3	3	
Bradford (Leeds Road)...	60	6,025	0	0	0	4	1	1	14	1	1	18	5	
*London (South Western)	235	26,600	0	0	0	5	6	1	18	0	2	3	6	
*London (South Eastern)	351	40,766	0	0	0	6	0	1	18	8	2	4	8	
Newcastle upon Tyne ...	78	9,234	0	0	0	7	3½	1	18	9½	2	6	1	
Belfast	65	8,260	0	0	0	5	9	2	3	3	2	9	0	
*London (Fountain) ...	60	11,148	0	0	0	5	8	3	5	10	3	11	6	

* Metropolitan Asylums Board's Hospitals.

" The work of the Infectious Disease Hospital has no exact parallel in other institutions in the Borough or its immediate vicinity, and it is therefore needful to test it by the work of similar hospitals in, or belonging to, large towns in Great Britain and Ireland. That the hospital at Leicester is carefully administered has long been an accepted fact, and the evidence given by the foregoing table, that its financial working compares favourably with other hospitals, will doubtless be generally welcomed."

HOUSES UNFIT FOR HABITATION.

During 1909, 18 houses were condemned as unfit for habitation, the cause, in almost every case, being dilapidation or dampness. One of these is to be pulled down and the remainder have been put into thorough repair or are now being repaired.

In Leicester, in dealing with houses unfit for habitation, action is taken under Section 43 of the Leicester Improvement Act, 1881, rather than under Part II of the Housing of the Working Classes Act, 1890, the procedure under the Local Act being simpler and more direct.

In addition to the houses condemned as unfit for habitation, 50 houses were certified by the Medical Officer of Health as filthy and unwholesome, and ordered to be cleansed and purified under Section 120, Public Health Act, 1875. 364 other houses were cleansed by the owners upon receipt of informal notices from the Sanitary Inspectors.

THE HOUSING, TOWN PLANNING, &c., ACT, 1909.

The most important legislative achievement during the year, from the public health point of view, was undoubtedly the Housing, Town Planning, &c. Act, 1909. In addition to materially strengthening the existing Housing Acts, several important new principles were introduced. The chief provisions of the Act (so far as Boroughs are concerned) may be briefly summarised as follows:—

Part III, Housing of Working Classes Act, 1890, enabling a Corporation to erect working class dwellings, is made of general application without being adopted, as was formerly necessary.

The procedure for the compulsory acquisition of land for the purposes of Part III is amended.

The period fixed for the repayment of loans for Housing schemes is extended.

When a local authority fails to exercise its powers under Part I (Improvement Schemes), under Part II (Unhealthy Dwelling Houses), or under Part III (Working Class Lodging Houses) of the Act of 1890, the Local Government Board may compel them, by mandamus, to exercise those powers.

There is to be an implied condition, wherever a house (not exceeding a rental of £26) is let, that it is, both at the time when it is let and subsequently, in all respects reasonably fit for human habitation, and if this requirement is not complied with, the local authority may themselves do the necessary work, and recover the cost from the owner.

The procedure under Part II of the Housing of Working Classes Act, 1890, with respect to the closing of dwelling houses unfit for human habitation, is greatly simplified by giving local authorities power themselves to make closing orders, without going before a court of summary jurisdiction. (N.B.—This is practically, giving to all local authorities the powers hitherto possessed by a few privileged Corporations—including Leicester—under Local Acts to make their own Closing Orders.)

The future erection of back-to-back houses (hitherto still permitted in a few towns) is now prohibited.

Part VI of the Act relates to Town Planning and is of great importance, as new principles are introduced into local government. Local authorities are authorised to prepare planning schemes in respect of land in course of development, or likely to be developed, with the general object of securing proper sanitary conditions, amenity and convenience in connection with the laying out and use of the land; and power is given to enforce such schemes after adoption and approval.

Although some of the above provisions may not much affect Leicester, owing to the excellent provisions in her Local Acts, the new Act is one of the highest importance, and is calculated to be of great benefit.

SLAUGHTER HOUSES.

In addition to private slaughter houses, of which there are 72 in different parts of the Borough, Leicester possesses a Corporation Abattoir, situated on the Aylestone Road, comprising eighteen slaughter houses. Twelve of these were erected about thirty years ago, and the other six in 1896. Seventeen are let to private tenants, some of whom sub-let to others; whilst only one is reserved for casual slaughtering. The rent received amounts to between £300 and £400. The approximate number of animals slaughtered annually is—beasts 4,500; sheep 10,000; pigs 15,000. Both the private slaughter houses and those belonging to the Corporation have been repeatedly visited during the year by the Meat Inspectors.

PUBLIC SWIMMING BATHS

Public facilities for bathing and swimming have such an important influence upon health that it is satisfactory to record that Leicester is well provided in this respect. There are four Corporation Swimming Baths, and a fifth is now in course of erection. There are also two open-air Bathing Stations.

By arrangement with the Education Committee, the exclusive free use of the various baths is granted during certain hours, for the purpose of instruction in swimming and gymnastics, to the children attending the elementary schools in the Borough. The children are taken to the baths in the charge of responsible teachers and the Education Committee pay for the maintenance and washing of the necessary towels, &c.

WATER SUPPLY.

The present Water Supply of Leicester is upland surface water collected in three impounding reservoirs on the Charnwood Forest. The total area of the gathering ground is 10,760 acres. The reservoir at Thornton is the oldest, and was constructed under the Act of 1847. The Bradgate reservoir was built next, under the Act of 1866, whilst that at Swithland was built under the Act of 1890. The total capacity of the three reservoirs is 1,379,000,000 gallons, supplying a population of over 280,000 persons.

The Water Supply undertaking was taken over by the Corporation in 1878.

Owing to the rapid growth of the town in recent years, it became imperative to provide for a further supply, and repeated efforts to obtain an adequate supply of good water in the neighbourhood of Leicester having failed, the great Derwent Valley Scheme was entered upon some years ago, by which Leicester, in conjunction with Sheffield, Derby, and Nottingham, is to obtain a magnificent supply of excellent water from the watershed of the River Derwent, in North Derbyshire. The vast works in connection with this scheme are being pushed steadily forward, but it will be some time before the water reaches Leicester. When it does come the water problem for Leicester will be solved for many years. By an arrangement which has been entered into with the Loughborough Corporation for a supply of water from the Blackbrook reservoir, after the needs of Loughborough have been satisfied, a temporary supplementary supply is obtained from that source.

SEWAGE DISPOSAL.*

The sewage of the Borough of Leicester was first pumped up to Beaumont Leys Farm in the year 1890.

The total lift is nearly 170 feet above the outfall sewer.

The Belgrave Sewage Farm was abolished, and the sewage from the Belgrave district first pumped to Beaumont Leys Farm in 1905.

The total lift in this case is 175 feet above the outfall sewer.

The total dry weather flow is about eight million gallons per day.

*The facts relating to Sewage Disposal have been kindly supplied by Mr. E. G. Mawbey, M Inst. C.E., Borough Engineer.

On reaching the Beaumont Leys Sewage Farm, the whole of the sewage is subjected to preliminary bacterial treatment for clarification before final purification on the land.

It is first passed through subsidence tanks, and then treated in first-contact bacteria beds, which cover an area of about twelve acres.

After this preliminary bacterial clarification, the sewage is finally purified by broad irrigation over about 1,350 acres of land, which consists largely of old pasture and rye grass.

The final effluent from the land is discharged partly into the River Soar, within the Borough, and partly into the Rothley Brook, on the Anstey side of the farm, which also eventually discharges into the River Soar.

The total area of the farm is 1,700 acres. The portion not available for sewageing is used for grazing when it is not convenient for the bullocks to be upon the sewaged area.

THE ABANDONMENT OF THE OLD "BOROUGH" TRAP.

Perhaps one of the most important sanitary events of the year has been the decision to substitute for the old "Borough pattern" gully trap, with bucket container—which hitherto has been the "approved" pattern in Leicester in the case of new buildings—another and improved pattern, designed on the self-cleansing principle, and without any bucket container.

The old pattern of trap is a survival of the times when the sewerage system of the Borough was so unsatisfactory that it was considered essential to exclude from the sewers all the solid matter that could possibly be excluded. The intercepting bucket container was introduced with this object. Since Leicester has been virtually re-sewered, however, the necessity for this no longer exists, and ordinary solid matter, in reasonable amount, fine enough to pass through the grid over a gully, may safely be allowed to enter the sewers.

THE LEICESTER MUNICIPAL GOLF LINKS.

A project, calculated to have a very important influence for good upon the health of the community, was brought forward and sanctioned by the Town Council during the year under review, viz., the provision of a Municipal Golf Links on the Western Park Estate. The game is an ideal one from a health point of view,

appealing as it does to persons of all ages, and of both sexes, and providing plenty of exercise of the best kind in the open country. It is sincerely to be hoped that this latest addition to our municipal enterprises will prove a great success and be well patronised.

A differential scale of charges to players has been arranged, so that whilst it is hoped and believed that the links will be self-supporting, the advantages offered will be within the reach of the working classes.

THE WORKMEN'S COMPENSATION ACT, 1907.

During the year 1909 sixty cases of accident or injury to Corporation employees were referred to the Medical Officer of Health for examination, and fifty-three reports were made by him. Many of these cases had to be seen more than once.

THE LEICESTER HEALTH SOCIETY.

A voluntary society, known as the Leicester Health Society, was formed in Leicester four years ago, and is doing very useful work in co-operating with the Sanitary Committee in endeavouring to improve the health conditions of the town. The subjects of infant hygiene and the instruction of mothers have rightly been those to which the Society has directed particular attention. Ever since the Corporation Infants' Milk Depot was started, the Society has evinced special interest in the work, and during the past year a "School for Mothers" was opened. This is held one afternoon a week in the Ragged School Mission Hall in Bedford Street. It has proved so successful that one or two branch schools have recently been started by the Society in other parts of the town. The Society employs a trained health visitor, and in recognition of the assistance rendered by her in connection with the Milk Depot, the Corporation pays a portion of her salary.

THE KYRLE SOCIETY.

Reference must also be made to the Leicester Kyrle Society, whose work is carried on in four principal sections. One of these, the Gardening Section, last year instituted a scheme for encouraging the cultivation of back gardens in the poorer parts of the town. Many of the cottages in certain districts have open spaces at the back which at some previous period were cultivated as gardens, but, unfortunately, very many of these have been allowed to go quite out of cultivation. With the idea of stimulating the

tenants to bring them back again into cultivation and of encouraging others, where the gardens are already cultivated, to make the best use of them and to take a pride in them, small prizes were offered for the best kept gardens in different classes. The scheme was restricted in the first instance to Wyggeston Ward, as this ward, besides being a very poor district, with high death-rate, has a large number of back gardens. The results were distinctly encouraging—over forty entries being received. The task of deciding upon the relative merits of competitors was no light matter. In consequence of the interest shown in the scheme, it has been decided by the Society to extend the scheme in 1910 to Newton Ward also.

From the point of view of public health this cultivation of the back gardens is most desirable. Not only does it tend to purify the soil in proximity to dwellings, but it encourages gardening amongst a class who otherwise would probably seldom touch a spade. Gardening undoubtedly forms a capital antidote to the evils of factory life and it is most desirable that it should be encouraged.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN.

The great value, both actual and potential, of this important work is becoming increasingly recognised. In Leicester, contrary to the practice in most towns, the work is carried on independently of the Health Department, but owing largely to the fact that the Medical Officer to the Education Committee (Dr. Allan Warner) was for so long connected with the Health Department, as Resident Medical Officer at the Isolation Hospital and Assistant Medical Officer of Health, there is complete co-operation and entire absence of friction between the two Departments; and whilst the Schools Medical Officer is independent of the Health Department as regards his special work, it is quite understood that in all questions which legitimately concern the latter Department he shall consult and act in concert with the Medical Officer of Health.

The following is the procedure adopted in order that the Departments may work together and assist one another as far as possible.

(1) In all cases where infectious disease is notified in houses where there are school children, a notice is at once sent by the Health Department to the Head Teacher of the school concerned.

(2) If the case is to be removed to the Isolation Hospital, the notice specifies how soon the other children may be allowed to return to school. If the case is treated at home, another notice is sent at the termination of the case after the house has been disinfected.

(3) A list is sent weekly to the Education Authority of all children discharged from the Isolation Hospital, specifying how soon after their return home they may be allowed to return to school. When it seems desirable that this time should be extended the cases are seen by the Medical Officer of Health and special certificates given.

(4) On the other hand, the Head Teachers forward to the Health Department, through their own Department, particulars of any cases of notifiable infectious disease which may be discovered by them.

(5) Lists of all children absent from school on account of non-notifiable diseases (measles, whooping cough, chicken pox, &c.) are forwarded to the Health Department every week.

(6) The names and addresses of children who are constantly found in a verminous condition are sent by the Education Department to the Sanitary Department.

(7) In any special matter concerning both Departments, the Medical Officer to the Education Authority confers with the Medical Officer of Health.

OPEN AIR SCHOOLS.

A subject which has aroused considerable interest in Leicester during the year is that of "open-air" or "recovery" schools. An interesting lecture was given under the auspices of the Leicester Health Society by Dr. Allan Warner, at which the Chairman of the Education Committee presided.

Subsequently a combined deputation from the Health Society and the Local Branch of the National Society for Prevention of Consumption, waited upon the Education Committee and pointed out the advantages of an open-air school in Leicester to which children suffering from or threatening to suffer from, tuberculosis,

and delicate and physically weak children, might be sent and thus obtain the advantages of open-air treatment whilst not neglecting their education.

For the present the question is in abeyance, as the extra cost entailed by an open-air school cannot be met. It is to be hoped, however, that the question may be reconsidered in the near future when further experience from Bradford, the London County Council and other places where these schools have been tried will be available.

THE OATHS ACT, 1909.

Sanitarians have for long agitated against the objectionable procedure of "Kissing the Book" in the administration of the oath in our Courts of Law. It is, therefore, cause for congratulation that these protests have now taken effect, and by the Oaths Act, 1909, the old insanitary procedure has at length been abolished. Henceforth, in place of kissing the Book, the juror holds it in uplifted hand whilst repeating the words of the oath.

CREMATION.

Leicester is one of the thirteen centres in this country which has provided facilities for cremation. The Leicester Crematorium was opened in 1902, and forms an annexe to one of the chapels at the Gilroes Cemetery. The cost of building was £2,869, which is considerably less than would have been the case if a separate building on a separate site had been necessary; whilst a great economy in working expenses is also effected by having the crematorium and cemetery combined, as no separate staff is necessary.

The furnace is of the Simon type, and about one ton of coke is required for a single cremation. When two cremations take place consecutively the consumption of fuel is proportionately much less. The time required for the process of cremation to be completed is something over one hour. The charge for cremation at the Leicester Crematorium is £2 2s. 0d. in the case of residents of Leicester, and £5 5s. 0d. in the case of non-residents. The undertaker's bill in the case of a working class woman who was recently cremated in Leicester, including hearse and pair, coach and pair, bearers, coffin, and cremation, amounted to £7 14s. 0d.

The number of cremations performed each year since the Crematorium was opened is shown below :—

1902 (part of year)	..	..	..	1
1903	..	..	..	5
1904	..	..	..	8
1905	..	..	..	15
1906	..	..	..	12
1907	..	..	..	13
1908	..	..	..	14
1909	..	..	..	19

The number of cremations performed during the past year was thus greater than in any previous year, and included the cremation of Mr. A. H. Paget, the Architect of the Leicester Crematorium, and a warm advocate of this mode of disposal of the dead. Another man of note who was cremated at Leicester during the year was Dr. Charles Bell Taylor, the distinguished Nottingham oculist. On the other hand, four of the cremations were of persons belonging to the working classes, who hitherto have been very slow to avail themselves of the facilities afforded.

VENTILATION OF PLACES OF PUBLIC WORSHIP.

It is notorious that the ventilation of our churches and places of public worship is often unsatisfactory and in some cases very bad. This may be due either to structural defects, *i.e.*, inadequate or faulty means of ventilation, or to insufficient attention on the part of those responsible for the heating and ventilation of a building. Moreover, the great objection evinced by certain members of a congregation to anything approaching fresh air often renders the duty of securing sufficient ventilation rather invidious, and the line of least resistance is generally to under-ventilate rather than to err in the opposite direction.

As this is a question which has a very direct bearing upon the health of a large section of the community, the following memorandum, drawn up by the Medical Officer of Health, and calling attention to the importance of proper ventilation, was issued by the Sanitary Committee, in April, 1909, to the authorities of every church and place of worship in the Borough :—

CORPORATION OF LEICESTER.

THE VENTILATION OF PLACES OF WORSHIP.

Memorandum by the Medical Officer of Health.

It is of the greatest importance, from a Public Health point of view, that there should be adequate and efficient ventilation in all public buildings in which numbers of people meet together.

The breathing of a vitiated atmosphere, containing effete products given off from the lungs, and from which the vitalising properties of fresh air have been abstracted (owing to its having been already breathed) constitutes a very serious menace to health.

Amongst the immediate deleterious effects (which may frequently be noticed) are *headache*, *drowsiness*, and *faintness*; whilst *anæmia*, *neurasthenia*, and *debility* are amongst the more permanent effects. Moreover, the risk of catching infectious complaints, such as *catarrhs* and *influenza*, is greatly increased. Lastly, but most important, the breathing of impure and de-vitalised air is a fertile predisposing cause of *pulmonary consumption*.

The securing of proper ventilation is therefore a most important duty resting upon those responsible for the management of every public building.

There is reason to fear that the ventilation of many of our places of public worship and Sunday schools is far from being as satisfactory as it should be. Indeed, complaints are frequently made that in some of them it is very bad.

Inefficient ventilation usually arises from one or both of the following causes :—

- (a) The means of ventilation provided are insufficient, or of an unsatisfactory character (producing, if used, an unbearable draught).

The remedy for this must be of a structural character, but the expense incurred will not necessarily be great.

- (b) Careless or unintelligent management by the officials responsible for the ventilation.

It is not always sufficiently realised that the proper ventilation of a public building, or room used for public meetings, is a matter which requires constant attention and the exercise of considerable intelligence. The conditions of ventilation vary from day to day,

or even from hour to hour, and depend upon the external temperature, the strength and direction of the wind, the size of the audience, &c. The ventilation of a building is also intimately connected with the heating arrangements, and both should be under the same control.

The officials responsible for ventilation are apt, in the absence of active supervision by those in authority, to follow the line of least resistance, which generally means closing all ventilators and only opening them when requested to do so.

A simple precaution which is not always taken is the thorough "perflation" of a building (by setting wide open all ventilators and windows) in the interval between two meetings on the same day.

There is no question that improvement in the ventilation of almost all buildings can be effected, once the great importance of the subject is fully realised.

FOOD INSPECTION.

A detailed account of the work of Food Inspection will be found in the Report of the Food Inspectors in Appendix V.

I need only add with reference to the important prosecution there referred to, in which a Leicester butcher was fined £100 and £25 costs, that the Finsbury Borough Council wrote expressing their high appreciation of the manner in which one of our Food Inspectors (F. Sowerbutts) had assisted them in obtaining evidence and following up the case.

WORK OF THE WOMEN INSPECTORS.

A Report of the work done by the Women Sanitary Inspectors will be found in Appendix VI.

APPENDIX I.

REPORT ON THE INFANTS' MILK DEPOT FOR 1909.

The year 1909 was the third completed year of the Milk Depot's existence, it having been opened in July, 1906.

The numbers have been as follows :—

Remaining on Books, Dec. 31st, 1908	207
Fresh Cases during 1909	639
	—— 846
Discontinued during 1909	613
Remaining on Books, Dec. 31st, 1909	233
	—— 846

The maximum number on the books was reached in November, when it was 243, and the minimum in April, when it was 184. The average number was 216, as against 195 and 102 in the preceding years. Several of the cases came from outside the Borough, a small extra charge being made in these cases.

There have been 37 "second" babies brought to the Depot during the year, *i.e.*, the second baby brought by the same mother. There have also been eight cases of the *third* baby. These figures are naturally increasing with the time the Depot has been in existence. They are satisfactory, as showing that mothers appreciate the assistance they derive from the Milk Depot.

The number of fresh cases in 1908 was 632 ; and in 1907 it was 672. These figures are, however, rather misleading, as when the Depot was a novelty many infants were brought but not kept on for any length of time.

The average time each infant remained on the Depot was 20 weeks, or excluding the cases which remained for not more than a week, 24 weeks. This is an increase as compared with previous years and is accounted for by the change to dried milk.

Classifying the completed cases during 1909 according to the time they remained on the Depot, we find :—

PERIOD ON THE DEPOT.				NO. OF CASES.
Not more $\frac{7}{4}$ than				
1 week	..	..	..	103
2	„	..	..	58
4	„	..	..	32
2 months		..	..	38
3	„	..	..	64
4	„	..	..	51
5	„	..	..	36
6	„	..	..	25
7	„	..	..	27
8	„	..	..	21
9	„	..	..	18
10	„	..	..	23
11	„	..	..	24
12	„	..	..	29
Over 12	..	..	..	64
				613

392 of the cases were sent by medical men. Many of these infants were sent either because they were ill or not thriving.

Excluding the 103 cases which did not have the Depot Milk for more than a week, there were 26 deaths of infants whilst on the Depot. The average time these cases had been on the Depot was nine weeks. The great majority of these cases were not in good health at the time they were first brought to the Depot. Two of the deaths were caused by measles, one by diphtheria, and one by over-lying.

Co-operation of the Health Society.

The Leicester Health Society, which has evinced so much interest in the subject of infant life preservation generally, and the work of the Milk Depot more particularly, since its formation, has continued to co-operate with the Sanitary Committee; and the Society's Health Visitor has continued to devote a considerable portion of her time to visiting the homes of Depot-fed infants, and to assisting the Medical Officer of Health on the two afternoons a week when the babies are weighed.

In recognition of the services rendered by the Health Society's Official at the Milk Depot, the Sanitary Committee have hitherto paid a portion of her salary.

The Charity Organisation Society.

The Leicester Branch of the C.O.S. have also continued their co-operation, and have paid for milk for twenty-three cases, for an average of thirteen weeks per case, the total amount paid during the year being about £25. The assistance thus rendered has been of the greatest value in bringing the benefits of the Milk Depot within reach of many who otherwise could not have received them.

The Guardians.

The Relieving Officers, on the recommendation of the District Medical Officers, have granted the Depot milk to 46 cases, the average length of time per case being four weeks, and the amount paid being £14 7s. 8d.

In a number of instances the milk has been paid for, in the case of poor persons, by ladies interested in them.

DELIVERY OF MILK.

The system of delivering milk (for an extra charge of 6d. per week) through the Tramways Parcel Department, has been continued and has worked satisfactorily.

ARRANGEMENT WITH THE LEICESTERSHIRE DAIRY COMPANY.

The arrangement with the above company, under which they prepare and sterilise the humanised milk, has been continued,* but a great reduction in the amount used has taken place owing to the increase in the use of dried milk.

DRIED MILK.

During the year the use of Dried Milk (manufactured by the *Hatmaker* process), which was begun towards the end of 1907, has been greatly extended, and at the end of 1909 about four-fifths of all the babies at the Depot were being fed on it exclusively.

*The Sanitary Committee provide all bottles, stoppers, baskets, packing cases, &c., and the Dairy Company wash bottles and prepare milk, and deliver at the Milk Depot. The Company are paid at the rate of 1s. 2d. per gallon of bottled milk.

Its great advantage—and an all-important one—is that it is more digestible, and many infants who are unable to keep down fresh milk will easily retain dried milk. The improvement in the general condition of an infant not thriving on fresh milk when put on dried milk is often most striking and gratifying, and there are few infants who will not do well on it. It is noticeable, too, that infants show a preference for it, and after being fed for a time on it they may refuse to take fresh milk. Moreover, owing to its convenience, it is very popular with the mothers, and it is very rare that they wish to change back to the humanised milk after once using it.

A careful watch has been kept for any symptoms of scurvy-rickets, or other unfavourable symptoms, but although a number of infants have been fed continuously on the dried milk for many months at a time, we have so far seen nothing which would justify the fear, expressed by some, that its continued use would be detrimental to health. As a precaution, mothers are advised to give a teaspoonful of orange or grape juice three or four times a week, but it is doubtful how far this is really necessary.

If dried milk justifies present hopes, it is likely to prove an immense boon to the poorer classes, and bids fair to drive many of the objectionable “patent” foods, prepared from starch, off the market. Like the latter, it possesses the advantage of cheapness and convenience, whilst being immensely superior from a nutritive point of view.

The present practice at the Depot is to regulate the richness of the milk as follows: For infants under two months old—half-cream milk; for infants between two and six months—three-quarters cream; for infants over six months old—full cream. In each case the milk is slightly sweetened by the addition to the dried milk of 10 per cent. of castor sugar.

We are at present able to retail these mixtures at 8d., 10d. and 1s. per lb., and at this price it costs about the same to feed an infant as if fresh cow's milk were purchased from a dairy.

Amongst the advantages which dried milk possesses over fresh milk may be mentioned the fact that it does not turn sour, but will keep good for months; that it is practically germ free (tubercle bacilli are destroyed in the process of manufacture); and is not liable to contamination by flies, &c.

Particulars of some cases brought to the Depot during the year :—

No. 542.—**CONSTANCE A**——, said to have been delicate from birth ; brought to the Milk Depot on advice of medical attendant when eleven weeks old, as having a “very weak digestion.” Placed on dried milk, and made steady progress from the first. Weight on admission 10 lbs. 8 ozs., and when nine months old weighed 24 lbs. ; an increase of 13½ lbs. in six months.

No. 353 ; **CHARLES B**——. Premature birth ; very delicate ; brought to Milk Depot, on advice of medical man, when three months old ; at that time only weighed 5 lb. 8 ozs. Placed on dried milk and made steady progress after first two weeks, and weighed 20 lbs. 12 ozs. when twelve months old.

No. 543 ; **MARGARET C**——. Brought to Milk Depot when five weeks old, on advice of medical man. Was then very ill, pale and flabby ; weight 9 lbs. 11 ozs. Was put on whey for a few days, and then on humanised milk. Made good progress, and when nine months old looked the picture of health, and weighed 23 lbs. 4 ozs.

No. 68 ; **PHYLLIS AND GORDON H**—— ; twins, brought to Milk Depot when eight weeks old, as boy not getting on satisfactorily. Were put on humanised milk and made excellent progress, and when thirteen months old weights had increased—girl from 9 lbs. 7 ozs. to 24 lbs. 4 ozs. ; boy from 8 lbs. 13 ozs. to 22 lbs. 12 ozs. Fine specimens of twins.

THE COST OF THE MILK DEPOT.

Appended to this Report is a Statement, furnished by the Borough Treasurer, showing the total receipts and payments on behalf of the Milk Depot during the financial year ending March 31st, 1910. It will be seen that whilst the payments, in round figures, amounted to £979, the receipts were £868, leaving a deficiency of £111, representing the cost of the Milk Depot to the ratepayers. Moreover, £25 of this, being the contribution of the Sanitary Committee towards the salary of Miss Wright, the Health Society's Health Visitor, which is debited to the Milk Depot Account, because of the assistance rendered by Miss Wright in visiting Milk Depot cases, may reasonably be deducted in considering the real cost of the Depot, because this payment, though

quite justifiable, is a voluntary one, and could, if necessary, be obviated. Deducting this £25, the net cost of the Depot is reduced to only £86, which compares very favourably with the cost of most other Infant Milk Depots in this country, where expensive machinery has been laid down for sterilising milk, washing bottles, &c.

It would have been quite impossible to "run" the Milk Depot as economically as this if the use of bottled humanised milk had been persisted with, as the preparing and bottling the milk involves so much labour that it is impracticable to sell it to the poor except at a loss. It is otherwise in the case of dried milk, and the results as regards the infants fed are even more satisfactory.

I would strongly advise those responsible for other Milk Depots who find the expense a drawback, as also any Authorities contemplating the establishment of a Milk Depot, to give dried milk a trial.

BOROUGH OF LEICESTER.
INFANTS' MILK DEPOT.

Receipts and Payments during year ended 31st March, 1910.

PAYMENTS.				£	s.	d.	£	s.	d.
Wages	..	..	..	..	54	17	0		
Purchase of Milk	..	..	..	..	683	9	2		
Delivery of Milk	..	..	..	..	41	9	11		
Bottles, Stoppers, &c.	..	..	..	..	56	0	10		
Rent, Rates and Insurance	..	..	..	..	48	17	2		
Fuel, Light and Water	..	..	..	..	16	4	7		
Telephone	..	..	..	..	7	0	1		
Printing and Stationery	..	..	..	..	9	17	10		
Fittings and Repairs	..	..	..	..	6	17	5		
Sundries	..	..	..	..	29	16	0		
Health Visitor (part salary)	..	..	..	..	25	0	0		
							979	10	0
RECEIPTS.									
Sale of Milk, &c.	..	..	..	..			868	12	11
Net Cost				..			£110	17	1

W. PENN-LEWIS,

27th April, 1910.

Borough Treasurer.

APPENDIX II.

REPORT ON THE BOROUGH ISOLATION HOSPITAL

For 1909.

By **CLAUDE E. A. COLDICUTT, M.D., D.P.H.,**

Resident Medical Officer and Assistant Medical Officer of Health.

On 31st December, 1908, there were 167 patients remaining in the Hospital. During the year, 1,382 patients were admitted, 1,382 were discharged, and 30 died, leaving 137 in hospital on 31st December, 1909.

The admissions showed an increase of 283 on the previous year, this being chiefly due to an increase in scarlet fever, there being a reduction in the number of both diphtheria and enteric fever patients.

The particulars of the admissions were as follows:—

Scarlet Fever	..	..	..	1,166
Diphtheria ..	..	..	..	83
Enteric Fever	..	..	..	19
Phthisis ..	..	..	..	104
Unclassified	..	..	..	10

Total	..	..	..	1,382
-------	----	----	----	-------

The Leicester Isolation Hospital is situated on the Groby Road, two and a half miles from the centre of the town, and one mile beyond the Borough boundary. The site, which covers sixteen acres of land, is a particularly good one, being on rising ground with a gentle slope to the south. The Hospital was opened in 1900, and provides accommodation for about 200 patients.

The Smallpox Hospital is a quarter of a mile away from the Isolation Hospital on the Anstey Lane. It stands on four acres of ground, and consists of wooden buildings covered with galvanised iron. It provides accommodation for 60 patients.

SCARLET FEVER.

The number of admissions for 1909 was 1,166, as compared with 865 in 1908 and 1,196 in 1907.

The returns show a steady number of admissions from January till the end of June. In July the number of cases admitted was exactly double that of June, and the numbers were maintained almost at this high level until November. In December a sudden fall occurred, the admissions of this month being only about half of those of the preceding month.

All four scarlet fever pavilions have been in almost continuous use, and Ward VA has been reserved as a discharging ward.

The fatal cases numbered 17, equivalent to a case mortality of only 1·4 per cent., a very satisfactory figure, and comparing favourably with that of 1908 (2·2) and 1907 (3·0).

Twelve of the fatal cases occurred in children under five years of age, and the remaining five cases under ten years of age. Three of the cases were complicated with acute kidney trouble and one with broncho-pneumonia and measles, the latter being practically moribund on admission. Five of the cases were of the malignant type.

The average period of isolation was 37·9 days, which is considerably lower than during the previous few years (*see* Table B).

DIPHTHERIA.

Of diphtheria, only 83 cases were admitted, this being the lowest number for several years. Many of the cases of this disease admitted to Hospital are cases of urgency as is evidenced by the fact that of the eight fatal cases during the year, no less than six died within twelve hours of admission.

Operations for laryngeal obstruction were performed in ten instances, viz., tracheotomy, nine times, and intubation once. Six of these cases recovered, four proving fatal, but three of the latter were admitted almost *in extremis*.

An exceptionally severe case of paralysis following diphtheria occurred in a young man. All four limbs were affected, and the patient was rendered perfectly helpless. The affection proving quite intractable to ordinary remedies, repeated large doses of anti-

diphtheric serum were given. Improvement set in at once and the patient made a complete recovery after being in hospital seventeen weeks. Hitherto, it has been the practice at the Hospital only to give serum in the early stages of the disease.

The average stay in Hospital of all the diphtheria patients was 40·7 days.

The case mortality was 9·6 per cent.

ENTERIC FEVER.

Only 19 cases of this disease were treated, this being very much less than usual. Three of the cases proved fatal, all of these being very seriously ill when admitted, and two dying within three days of admission.

Two of the cases treated were nurses who, unfortunately, contracted the disease in the performance of their duties. The patient from whom they were both infected was an exceptionally severe case.

UNCLASSIFIED CASES.

In a hospital for fevers there is generally a certain number of cases admitted which cannot be classified with the ordinary fevers. Ten were admitted this year, the number being made up as follows :—

Erysipelas	..	..	..	2
Measles	..	..	..	3
Pneumonia	..	..	..	2
Septic Throat	..	..	..	2
Adenitis (post-scarlatinal)	..	..	..	1
Total				10

The average stay of these patients was 16·6 days. Two of the cases—one measles, and one pneumonia—proved fatal.

PHTHISIS.

During the year 146 cases applied for admission, and of these 104 cases were admitted. The average length of time that each patient remained was 53·5 days, which is rather less than in the two preceding years.

The subject of the hospital treatment of phthisis patients has been already dealt with by the Medical Officer of Health in his Report.

BACTERIOLOGY.

The work of the laboratory is still carried out as in previous years. Facilities are afforded to the practitioners within the Borough to have specimens of sputa, throat swabs, or blood examined free of charge as an aid to diagnosis in doubtful cases of phthisis, diphtheria, or enteric fever.

STAFF.

In November, Dr. C. H. Cox, having obtained another appointment, resigned the position Resident Medical Officer and was succeeded by Dr. C. E. A. Coldicutt.

The health of the Staff during the year has, on the whole, been good. Two nurses unfortunately contracted typhoid fever as mentioned above, and three nurses contracted scarlet fever. All made good recoveries.

HONORARY CHAPLAIN.

The Hospital still continues to be indebted to the Rev. Canon Gedge for his voluntary ministrations to the sick in the hospital. His weekly visits to the Hospital are very much appreciated, both by the patients and staff.

The continued work of the Church-Workers' Guild, which conducts a Sunday evening service for the consumptive patients, is also very much appreciated.

CLAUDE COLDICUTT,

Resident Medical Officer and Assistant M.O.H.

GIFTS TO THE HOSPITAL

DURING 1909.

Adderley and Co., Messrs. Dolls.
 Anstey Adult Class. Wool Vests and Nightgowns.
 Anstey School. Flowers.
 Appleton, Mr. (Nottingham). Magazines and Books.
 Baker, Mrs. (Blackheath). Toys.
 Beeby, Mr. Scrap Book.
 Boys at Kirby Muxloe. Books and Magazines.
 Casson, Rev. Flowers and Plants.
 Cooper, Mr. Large Doll from Mayflower Bazaar.
 Donaldson, Mrs. Books.
 Emery, Miss. Scrap Book.

Falkner, Mrs. Books.
 Gedge, Canon. Dolls, Toys, Books, Xmas Cards, Clothing, &c.
 Gedge, Rev. J. W. (Melton Mowbray). Books and Magazines.
 Hodgson, Miss. Magazines.
 Lakin, Dr. and Mrs. Magazines and Pictures.
 Lee, Mr. Papers.
 Leeson, Mr. Books.
 Midland Educational Co. Books and Magazines.
 Robinson, Miss. Magazines.
 Thorne, Mr. Books.
 Thompson, Mrs. Books and Toys.
 Wilcox, Rev. Flowers.
 Williams, Mrs. Books, &c.
 The following have sent Dolls or Toys :—
 Boyton, Mr. ; Ellis, Mrs. ; Faulkner, Mrs. ; Haines, Mrs. ;
 Henson, Miss ; King, Miss ; Nevin, Mrs. ; Sharman, Mrs. ;
 Salmon, Mrs.

CHRISTMAS TOY FUND.

Bowmar, Mr.	..	..	..	..	2	2	0
Colman, Ex-Councillor	..	..	..	..	0	2	6
Tarratt, Mr.	..	..	..	..	0	2	6
Anonymous	..	..	..	..	0	7	0
ditto	..	..	..	..	0	5	0

TABLE A.
Number of Patients Admitted, Discharged, and Died during 1909.

Disease.	Remaining, 31st December, 1908.	Admitted during Year.	Discharged during Year.	Died during Year.	Remaining, 31st December, 1909.
Scarlet Fever	...	1166	1165	17	112
Diphtheria	...	83	80	2	9
Enteric Fever	...	19	21	3	1
Phthisis	...	101	101	0	11
Unclassified	...	10	9	2	1
TOTAL	...	1382	1382	30	137

TABLE B.

Showing, for the different diseases, the number of patients admitted, the average number in Hospital each day, and the average stay in Hospital.

	Scarlet Fever.			Diphtheria.			Enteric Fever.			Smallpox.			Phthisis.			Other Diseases.			Total.		
	No. of Patients Admitted.	Average Patients in Hospital Each Day.	Average Days' Stay per Patient.	No. of Patients Admitted.	Average Patients in Hospital Each Day.	Average Days' Stay per Patient.	No. of Patients Admitted.	Average Patients in Hospital Each Day.	Average Days' Stay per Patient.	No. of Patients Admitted.	Average Days' Stay per Patient.	No. of Patients Admitted.	Average Patients in Hospital Each Day.	Average Days' Stay per Patient.	No. of Patients Admitted.	Average Days' Stay per Patient.	No. of Patients Admitted.	Average Patients in Hospital Each Day.	Average Days' Stay per Patient.		
1901	491	54.4	40.5	592	49.4	30.5	60	7.4	45.4	4	29.0	—	—	—	1147	111.7	35.5	—	—		
1902	588	72.4	45.0	183	20.7	41.3	54	6.0	40.6	18	37.7	—	—	—	843	101.0	43.7	—	—		
1903	130	16.0	45.0	47	3.4	26.5	24	3.3	50.4	388	32.2	63	6.8	39.5	652	63.8	35.7	—	—		
1904	239	28.1	43.0	26	2.1	30.5	37	4.5	45.0	293	29.6	121	10.4	31.6	716	69.1	35.2	—	—		
1905	739	82.4	40.7	89	6.3	26.1	43	5.3	45.2	5	35.0	157	16.0	37.3	1037	111.0	39.0	—	—		
1906	1471	172.5	42.8	166	14.0	30.8	58	7.2	45.5	1	30	69	10.5	56.0	1765	204.4	42.2	2	65.0		
1907	1196	154.5	47.1	102	8.1	29.1	35	5.0	52.1	—	—	82	14.7	65.6	(Ery.) 5	1420	182.6	46.9	19.1		
1908	866	149.3	48.1	92	12.5	49.8	29	4.9	61.7	—	—	91	15.2	60.8	21	1099	147.8	49.1	18.6		
1909	1166	123.0	37.9	83	9.4	40.7	19	3.0	61.2	—	—	104	15.3	53.5	10	1382	149.3	39.4	16.6		

TABLE C.

BOROUGH OF LEICESTER. ISOLATION HOSPITAL.

Receipts and Payments during year ended 31st March, 1910.

PAYMENTS—				£	s.	d.	£	s.	d.
Resident Medical Officer's Salary	..			..	149	16	6		
Matron's Salary	..	..		..	74	5	0		
Wages	..	..	..	..	1805	16	3		
Provisions	..	..	..	..	1475	18	9		
Mineral Waters, etc.	..	..		..	5	0	8		
Domestic Utensils	..	..		..	28	7	10		
Bedclothing, Towelling, etc.	..			..	108	10	7		
Furniture and Fittings	..			..	79	19	3		
Fuel, Light, and Water	..			..	903	3	3		
Rates and Fire Insurance	..			..	276	6	2		
Alterations and Repairs	..			..	318	14	0		
Horsehire and Horsekeep	..			..	121	10	10		
Telephone	..	..	..	..	15	0	7		
Drugs, Disinfectants, etc.	..			..	177	5	2		
Advertising, Printing, etc.	..			..	38	15	2		
Labour, etc. at Grounds	..			..	51	10	2		
Brushes, Soap, and Miscellaneous	..			..	109	7	2		
								5739	7 4
LESS RECEIPTS—									
Maintenance of Patients	..			..*	243	11	6		
Part Pumping Expenses Repaid	..			..	75	0	0		
Sale of Hay	..	..		..	25	0	0		
Miscellaneous	..	..		..	5	12	0		
								349	3 6
Net Expenditure..	..			..				£5390	3 10

W. PENN-LEWIS,

27th April, 1910.

Borough Treasurer.

* Includes £121 2s. for maintenance of Consumptive Patients, and £116 7s. paid by Guardians for maintenance of Scarlet Fever Patients.

TABLE D.

BOROUGH OF LEICESTER—SANITARY COMMITTEE.

Cost of administration of Isolation Hospital (exclusive of Buildings, &c.) for each of the five years ending 31st March, 1910, with average cost of each item per patient-day.

PARTICULARS.	Year 1905-6.			Year 1906-7.			Year 1907-8.			Year 1908-9.			Year 1909-10.		
	Amount.		Average cost per patient-day.	Amount.		Average cost per patient-day.	Amount.		Average cost per patient-day.	Amount.		Average cost per patient-day.	Amount.		Average cost per patient-day.
	£	s. d.		£	s. d.		£	s. d.		£	s. d.		£	s. d.	
Wages	1,716	11 5	0 10·17	1,784	16 9	0 5·74	1,736	5 5	0 7·07	1,754	3 3	0 8·11	1,805	16 3	0 8·07
Mineral Waters, &c. ..	18	0 9	0 0·11	9	16 2	0 0·03	7	18 7	0 0·03	5	18 7	0 0·03	5	0 8	0 0·02
Provisions	1,117	19 2	0 6·03	1,352	6 11	0 4·35	1,310	1 6	0 5·33	1,196	19 3	0 5·53	1,197	13 11	0 5·35
Meat	329	14 2	0 1·95	335	2 3	0 1·08	252	15 10	0 1·03	247	17 6	0 1·15	278	4 10	0 1·25
Furniture, &c. ..	291	9 7	0 1·72	338	7 2	0 1·09	252	8 5	0 1·03	227	14 10	0 1·05	188	9 10	0 0·84
Utensils	39	1 9	0 0·23	35	9 6	0 0·11	32	5 2	0 0·13	43	0 0	0 0·20	28	7 10	0 0·12
*Fuel	702	0 3	0 4·16	712	4 11	0 2·29	802	9 2	0 3·27	802	0 8	0 3·71	751	11 0	0 3·36
Light	80	17 9	0 0·48	92	16 3	0 0·30	68	18 9	0 0·28	65	19 4	0 0·30	86	4 7	0 0·39
Water	18	13 1	0 0·11	26	11 5	0 0·09	37	9 3	0 0·15	38	4 3	0 0·18	65	7 8	0 0·29
Drugs, &c. ..	130	1 11	0 0·78	197	13 8	0 0·63	159	9 7	0 0·65	186	4 3	0 0·86	177	5 2	0 0·79
Labour, &c. (Grounds)	224	3 2	0 1·33	39	11 11	0 0·13	53	5 2	0 0·21	44	2 5	0 0·20	51	10 2	0 0·23
Miscellaneous ..	192	16 8	0 1·12	175	1 2	0 0·56	130	1 6	0 0·53	145	14 7	0 0·67	148	2 4	0 0·67
Yearly Totals of above items	4,861	9 8	2 4·79	5,099	18 1	1 4·40	4,843	8 4	1 7·71	4,757	18 11	1 9·99	4,783	14 3	1 9·38
Less—Receipts ..	109	8 2	0 0·64	255	2 9	0 0·83	284	5 0	0 1·15	264	8 7	0 1·22	349	3 6	0 1·56
Net Yearly Cost ..	£4,752	1 6	2 4·15	£4,844	15 4	1 3·57	£4,559	3 4	1 6·56	£4,493	10 4	1 8·77	£4,434	10 9	1 7·82
No. of Patient-days ..	40,515			74,636			58,964			51,912			53,676		

27th April, 1910.

* For details of Fuel see Table E.

W. PENN-LEWIS, Borough Treasurer.

TABLE E.
DETAILS OF FUEL used during the five years ending 31st March, 1910 (included in Table D).

Particulars.	Year 1905-6.			Year 1906-7.			Year 1907-8.			Year 1908-9.			Year 1904-5.		
	Rate per Ton.	Weight.	Value.	Weight.	Value.	Weight.	Value.	Weight.	Value.	Weight.	Value.	Weight.	Value.	Weight.	Value.
Coal	s. d.	T. C. Q.	£ s. d.	T. C. Q.	£ s. d.	T. C. Q.	£ s. d.	T. C. Q.	£ s. d.	T. C. Q.	£ s. d.	T. C. Q.	£ s. d.	T. C. Q.	£ s. d.
"	8 9	—	—	—	—	—	—	—	—	—	—	—	—	—	—
"	9 0	—	—	—	—	—	—	—	—	—	—	—	—	—	—
"	9 1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
"	9 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
"	9 4	—	—	—	—	—	—	—	—	—	—	—	—	—	—
"	9 5½	—	—	—	—	—	—	—	—	—	—	—	—	—	—
"	9 6	207 17 1	98 14 8	78 17 2	37 6 0	66 9 1	31 8 9	66 9 1	31 8 9	81 3 2	37 17 8	252 1 3	114 9 10	56 17 2	26 1 4
"	9 9	—	—	65 4 3	30 19 8	288 12 1	137 1 10	1065 5 3	506 0 4	—	—	—	—	—	—
"	10 3	56 2 1	28 15 2	—	—	—	—	106 5 1	51 15 10	—	—	—	—	—	—
"	10 9	—	—	—	—	—	—	—	—	—	—	—	—	—	—
"	11 9	—	—	—	—	—	—	—	—	—	—	—	—	—	—
"	12 0	31 1 3	18 12 10	9 1 3	5 6 8	3 10 1	2 1 3	—	—	—	—	—	—	—	—
"	12 2	—	—	13 12 3	8 3 9	—	—	—	—	—	—	—	—	—	—
"	12 9	—	—	—	—	69 1 2	42 0 5	73 6 3	44 12 5	—	—	—	—	—	—
"	13 3	—	—	9 10 3	6 1 7	13 3 2	8 8 1	—	—	—	—	—	—	—	—
"	13 6	13 5 1	8 19 0	—	—	—	—	—	—	—	—	—	—	—	—
"	13 9	—	—	—	—	10 13 2	7 4 3	—	—	—	—	—	—	—	—
"	14 3	—	—	—	—	8 1 2	5 15 1	21 9 3	14 15 7	15 8 1	10 4 4	14 15 2	10 3 2	—	—
Slack	6 10	—	—	—	—	—	—	10 19 3	7 16 6	—	—	—	—	—	—
"	7 7	—	—	—	—	—	—	—	—	—	—	—	—	—	—
"	7 10	—	—	—	—	—	—	—	—	—	—	—	—	—	—
"	8 9	—	—	—	—	—	—	—	—	—	—	—	—	—	—
"	8 2	—	—	278 6 1	113 12 11	427 0 3	174 7 8	—	—	—	—	—	—	—	—
"	8 3	1325 11 3	546 18 7	1151 10 3	475 0 4	—	—	—	—	—	—	—	—	—	—
"	8 9	—	—	41 10 1	18 3 4	90 3 0	39 8 10	—	—	—	—	—	—	—	—
"	8 11	—	—	—	—	—	—	—	—	—	—	—	—	—	—
"	9 0	—	—	38 19 1	17 10 8	—	—	308 6 3	137 9 4	—	—	—	—	—	—
Firewood, &c.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		1633 18 1	£702 0 3	1686 14 0	£712 4 11	1745 4 1	£802 9 2	1666 17 2	£802 0 8	1793 5 3	£751 11 0				

27th April, 1910.

W. PENN-LEWIS, Borough Treasurer.

APPENDIX III.

PUBLIC ANALYST'S REPORT

For the year 1909.

TOWN HALL, LEICESTER,

March, 1910.

To the Chairman and Members of the Sanitary Committee.

GENTLEMEN,

My Report as Public Analyst for the year 1909 is as follows :—

The total number of samples purchased by your Inspectors under the Food and Drugs Act and submitted for analysis was 403. The nature of the samples is shown in Table A.

Milk.—168 samples were examined, and seven of these were certified as adulterated. Several other samples were slightly below the legal limit, either as regards the fat content or the non-fatty solids. The deficiency, however, was so slight that I did not feel justified in certifying them as adulterated. In some cases moreover, where the non-fatty solids were slightly deficient, the proportion fat was above the legal limit, so that the total solids were not deficient. Of the seven certified samples, five contained added water and two were deficient in fat. In one case, of watered milk, No. 8, the vendor came before the Sanitary Committee, bringing the farmer who supplied him with milk and who virtually admitted that he had tampered with the milk, and added that the milk was poor as he was only paid a poor price for it. The farmer was severely censured. Unfortunately, he was not legally responsible, as he was not the vendor at the time the sample was taken.

In another instance, two samples, Nos. 110 and 111, were taken on delivery by a farmer from the country to a large retailer in the Borough. Both samples were found to be deficient in fat. In this case the farmer was prosecuted and fined 40s. and costs.

In a third instance milk from the County was taken at the railway station, whilst in transit, and found to have been watered to the extent of seven per cent. In this case also the farmer was prosecuted and fined 40s. The defence was that a man employed by the defendant, and who was under notice to leave, had added the water.

In many of the cases of milk certified as adulterated the amount of the adulteration found is not very great. It has to be borne in mind, however, that in calculating the amount of the adulteration the analyst has to take the standard fixed by the Board of Agriculture, viz., 3·0 per cent. for fat, and 8·5 per cent. for non-fatty solids. This standard was necessarily fixed very low in order not to inflict injustice in the case of a naturally poor milk. But it is obvious that if a naturally rich milk is tampered with, proportion of adulteration, calculated on the assumption that the milk was naturally a poor one, will be returned at considerably below the real amount. Another consideration which should be borne in mind is that when milk is being systematically tampered with, either by the addition of water or abstraction of fat, it is not to be expected that any very gross amount of adulteration will ever be discovered. The culprits in these cases are much too clever for that. As regards the *abstraction* of fat, moreover, this can be as effectually accomplished by the *addition* of a small quantity of separated milk—paradoxical though this may seem—as by the more crude and old-fashioned method of skimming.

Preservatives in Milk.—Thirty of the milk samples were tested for boric acid preservatives and found free. The practice of adding boric acid to milk has been abandoned since the local milk trade was circularised some years ago, notifying milk dealers that it would not be allowed.

Milk Depot.—Samples of milk, both humanised and dried, supplied to the Milk Depot, were analysed from time to time, to ensure the proper strength and quality.

Butter.—150 samples of butter were submitted for analysis. Of these, 60 were taken informally *i.e.*, without the formalities required under the Food and Drugs Act in order to obtain a conviction—and no announcement was made to the vendor at the time of the purchase that the articles were required for analysis. A small quantity of butter was simply purchased in

the ordinary way over the counter, by a woman employed for the purpose, and preferably on a Saturday night. In this way a much larger number of samples can be obtained, and if any should be found to be wrong, a further sample can be obtained in which the full formalities are carried out. This method of procedure is specially recommended by the Board of Agriculture, and culprits may sometimes be detected in this way who otherwise would not be. Two of these informal samples proved to be margarine, and formal samples were thereupon taken and also found to be margarine. In two cases of substitution of margarine for butter, the vendors were prosecuted. In one case a fine of 10s. was imposed, the defendant in this case pleading illness and the carelessness of an assistant. In the other case, where the defendant pleaded that he had made a mistake, the case was dismissed. In the two cases which were preceded by informal samples, referred to above, the Committee decided not to prosecute but to administer a caution.

Water Analysis.—During the summer months serious trouble was experienced with the water supplied from the Corporation Reservoir at Swithland. This was due to an abnormal growth of algæ—a species known as *anabaena*—which choked the filter beds and gave the filtered water a highly unpleasant smell—so much so, that the water from this reservoir had to be entirely shut off until the filter beds had been thoroughly purified and the growth of algæ checked. Fortunately, the other two reservoirs, at Cropstone and Thornton, were unaffected. Owing to this unusual occurrence, a considerable amount of time had to be devoted to water analysis, and several visits paid, in conjunction with Mr. Griffith, the Waterworks Engineer, to the affected reservoir.

I append the usual Tables.

Your obedient servant,

C. KILLICK MILLARD,

Public Analyst.

TABLE A.
Summary showing Samples taken and submitted for Analysis during 1909.

Nature of Samples.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		Total for Year.	
	Samples taken.	Found Adulterated.	Samples taken.	Found Adulterated.	Samples taken.	Found Adulterated.	Samples taken.	Found Adulterated.	Samples taken.	Found Adulterated.
Milk	..	36	3	..	48	1	48	1	168	7
Cream	..	..	..	..	..	..	6	0	6	0
Butter	..	18	2	..	24	0	52	4	150*	6*
Margarine	..	4	0	..	..	..	..	..	7	0
Cheese	..	..	..	..	..	..	6	0	6	0
Bread	..	..	..	..	..	..	12	0	12	0
Flour	..	..	..	..	..	..	12	0	12	0
Coffee	..	6	0	..	..	..	12	0	18	0
Mustard	..	6	0	..	..	..	6	0	12	0
Baking Powder	..	..	..	..	..	..	6	0	6	0
Spirits†	..	..	..	..	..	..	6	0	6	0
Total	70	5	95	2	72	1	166	5	403	13

* Sixty of the butter samples, including two of the six returned as adulterated, were taken "informally."
† Viz., Brandy 1, Whiskey 2, Rum 1, Gin 2.

TABLE B.

Particulars of Adulterated Samples in 1909.

No. of Sample.	Nature of Sample.	Nature and Amount of Adulteration.	Action taken.
8	Milk	8.2 per cent. of added water	Farmer who supplied Vendor severely censured by Committee.
24	Butter	The sample proved to be Margarine	Vendor prosecuted. Fined 10s.
34	Milk	5.8 per cent. of added water	Vendor cautioned by Sanitary Committee.
37	Butter	The sample proved to be Margarine	Vendor prosecuted. Case dismissed.
51	Milk	8.0 per cent. of added water	Vendor cautioned by letter from Town Clerk.
110	Milk	Deficient of 5.0 per cent. of fat	Vendor prosecuted, and fined 40s. and costs.
111	Milk	Deficient of 10.0 per cent. of fat	Vendor prosecuted, and fined 40s.
122	Milk	13.0 per cent. of added water	Vendor prosecuted by Sanitary Committee.
188	Milk	Deficient of 13.0 per cent. of fat	These were informal samples, and were from the same shops as Nos. 400 and 401.
385	Butter	The samples proved to be Margarine	Vendor cautioned by Sanitary Committee.
386	Butter	"	"
400	Butter	The sample proved to be Margarine	"
401	Butter	"	"

APPENDIX IV.

CHIEF INSPECTOR'S REPORT
UPON THE
WORK OF THE SANITARY DEPARTMENT
DURING 1909.

To the Medical Officer of Health.

SIR,—I beg to submit the following Report of work done in the Sanitary Department during 1909.

I am, Sir,

Yours faithfully,

5th May, 1910.

FRANCIS BRALEY, CERT. SAN. INST.

On reference to Statement A it will be seen the number of house-to-house inspections is less than in the previous year, this is owing to the increase in the number of visits made in connection with contagious disease.

During the year numerous applications from householders and others to have the smoke test applied to the drains on their premises have been received; some have suspected the drains to be faulty, others to ascertain that they were sound. To each applicant a leaflet is presented, stating that to obtain a complete and satisfactory test, the drain (if not already disconnected) must be cut off from the sewer and the ventilating pipe blocked up, also that the expense of preparing the drain for the test must be borne by the owner or occupier.

3,483 Smoke Observations were made during the year, and 37 notices have been sent to manufacturers and others whose chimneys have been reported by the District Inspectors for causing a nuisance in allowing black smoke to issue therefrom. In one instance the principal and his stoker appeared before the Sanitary Committee and were cautioned. In another case proceedings were instituted against a firm and their stoker, the firm were fined 20s. and costs, and the stoker 2s. 6d.

107 Canal Boats were inspected during the year, when it was found that 200 men, 49 women, 27 children over five years of age, and 14 under five, were living on the boats. The number of boats on the register is 127, of this number 103 cannot be traced. No infringements of the Regulations were reported.

STATEMENT A.

Showing the work done by the Sanitary Staff during the
Year 1909, and also in 1908.

	No. of Visits.	
	1909.	1908
Systematic House to House Inspections ..	15,288	16,488
Investigations of Complaints	21,758	21,627
Visits to ascertain the progress of Sanitary and Informal Orders	18,419	18,139
Visits in connection with Contagious Diseases ..	10,274	7,790
Visits to Common Lodging Houses ..	546	711
Visits to Bakehouses	543	558
Visits to Canal Boats	88	162
Visits to Workshops	841	969
Visits to Ice Cream Shops	10	20
Visits to Refreshment Room Kitchens ..	34	19
Visits to Fish Shops	171	131
Visits to Caravans	193	149
Visits to Marine Stores	15	10
Visits to Home-workers	665	340
Visits to Births	5,783	5,007
Visits to Dairies and Milk Shops ..	142	178
Visits to Cowsheds	256	289
Visits to Retail Shops	118	—
	75,144	72,589
Samples of Food, &c., purchased for Analysis under		
Adulteration Acts	427	409
Observations for the purpose of Smoke Prevention	3,483	3,508
Stacks reported for Smoke Nuisance ..	39	47
Houses Disinfected by the Sanitary Staff ..	2,159	1,658
Articles Disinfected by Steam	1,097	—
Swine reported to Medical Officer of Health ..	60	124
Filthy Houses ditto ditto	51	56
Dilapidated Houses ditto ditto	20	61
Prosecutions under the Public Health and Local Acts	10	1
Letters (including Complaints of Nuisances) received	3,289	3,545
Letters (including School and Sanitary Notices) sent out from the Offices	6,473	6,032
Drains Tested (Smoke and Fluid)	476	513

STATEMENT B.

During the year Formal and Informal Notices have been served
to abate Nuisances as follows :

	No. of Orders.
To abolish Manure-pits and Ash-pits	112
„ repair ditto ditto	2
„ provide Ash-Bins	2,169
„ abolish Privies	1
„ abolish Pail Closets	2
„ erect New Water Closets	8
„ repair, alter, or rebuild Closets	2
„ fix Closet Hoppers and Syphons	66
„ fix Flushing Apparatus and lay on Water Supply	45
„ repair ditto and ditto	50
„ alter and ventilate Soil Pipes	2
„ stop up or disconnect Cellar Drains	1
„ lay New Drains	1
„ relay or repair Defective Drains	117
„ clear Choked Drains	442
„ cleanse or repair Cisterns	25
„ fix lead or iron Sink Wastes	18
„ fix Gullies	87
„ reset Gullies or provide new Gratings	57
„ erect, alter, screen, or repair Urinals	15
„ repair, rehang, or provide new Doors for Closets and Dwellings	32

STATEMENT B.—Continued.

	No. of Orders.
To repair, renew, and make good Spouting ..	187
„ cleanse and limewash Closets and Passages ..	74
„ pave Yards and Passages, or repair Paving ..	151
„ provide new or relay and repair Floors ..	86
„ repair Roofs	133
„ cleanse and limewash Houses	364
„ ventilate Dwellings	9
„ remove Manure and Offensive Matter	3
„ remove Animals kept in such a condition as to be a Nuisance	8
„ alter Chimneys and Miscellaneous	164
„ reduce Number of Persons occupying Houses ..	20
„ repair Staircases	12
„ fix 4-inch Ventilating Pipes	10
„ repair Walls	53
„ insert Damp Proof Courses	101

*4,629

* The 4,629 Defects ordered to be remedied were contained in 4,204 Notices,
and of these 357 were Formal and 3,847 Informal Orders.

STATEMENT C.

Showing the Localities of Sewer Gas Escapes.

Into Breakfast Rooms, Sitting Rooms, and Dining Rooms	5
„ Houses from Rat Holes	1
„ Kitchens and Sculleries	5
„ Basement Kitchens and Cellars .. .	13
„ Lobbies and other parts of Houses	2
„ Internal Water Closets	11
„ External Water Closets	86
„ Yards, from around badly set Gullies, defective Drains, etc.	105
From Soil Pipes	29
„ Heads and Joints of downright Rain Water Pipes	21
„ Untrapped Rain Water Cisterns	4
„ Gullies in Stables	1
„ Ventilating Pipes	12
	295
And in connection with Houses in which Infectious Diseases have arisen	222
Total	517

STATEMENT D.

In connection with Infectious Diseases Inspection, the following defects were found, either in the houses referred to in the certificates, or in the houses, closets, etc., in the same yard.

	No.
Defective and Foul Ashpits	6
„ and dilapidated Closets	1
„ and choked Drains	23
„ and unventilated Soil Pipes	1
„ Urinal, Bath and Lavatory Wastes	1
„ Paving and Surface Channels	13
„ Untrapped or badly set Gullies to Sink and Yard Drains	19
„ Water Closet Hoppers and Flushing Apparatus	16
„ Spouting	7
Foul Brick and Defective Shafts to Sinks	1
Foul and Defective Rain Water Cisterns	7
Filthy Urinals, Closets and Passages	4
Filthy Houses	31
Escapes of Sewer Gas into :	
External Closets	30
Living Rooms and Sculleries	3
Yards, from defective Drains, badly set Gullies, or Rain Water Pipes connected direct with the Sewers or Drains	59
	222

STATEMENT E.

In connection with the Inspection of Factories and Workshops, the following Sanitary defects have been found, and Formal and Informal Notices served.

	No. of Orders.
To abolish Manure and Ash-pits	1
„ provide Ash-tubs or Bins	5
„ erect New Water Closets	10
„ fix Closet Basins and Syphons	4
„ repair Flushing Apparatus and lay on Water Supply	8
„ alter and ventilate Soil Pipes	1
„ relay or repair defective Drains	2
„ clear choked Drains	3
„ fix Traps or Gully Gratings	2
„ erect, alter, screen, or repair Urinals	1
„ provide new, or relay or repair Floors	4
„ repair Roofs	2
„ cleanse and limewash Workshops	44
„ repair Walls	3
„ fix 4-inch Ventilating Pipes	3
„ provide Light and Ventilation	5
	—
Total	98
	—

STATEMENT F.

Showing the number of Offensive Trades carried on, and
Registered and Licensed Premises within the Borough
requiring the constant attention of the Inspectors.

DESCRIPTION OF TRADE.					No.
Slaughter Houses (Registered)	..	..	..	..	72
„ „ (Public)	..	..	..	..	18
Tripe Houses	..	..	..	..	32
Common Lodging Houses	..	..	..	..	31
Bakehouses	..	..	..	..	252
Cowsheds	..	..	..	..	49
Milk Shops and Dairies	..	..	..	..	1,084
Tallow Melters	..	..	..	..	1
Chemical Works	..	..	..	..	2
Tanners and Fellmongers	..	..	..	..	2
Bone Boilers	..	..	..	..	1
Knacker's Yard	..	..	..	..	1
Gut Scrapers	..	..	..	..	2

STATEMENT G.

Showing the quantity of Meat, etc., condemned by the Inspectors
of Foods during the year 1909.

MEAT, ETC., CONDEMNED AND DESTROYED.

					Tons.	Cwts.	Qrs.	Lbs.
Meat	..	..	..	..	39	2	1	2
Fish	..	..	..	..	19	18	1	15
Fruit	..	..	..	.	1	15	3	17
Vegetables	..	..	..		0	4	2	17
Rabbits	..	..	..	..		1,111		
Preserved Foods	..	..	..	..		4,468		
Oysters	..	..	..	..		2,400		
Poultry	..	..	..	..		115		

APPENDIX V.

REPORT OF THE INSPECTORS OF FOODS, MESSRS. MARTIN TYLDESLEY & FREDK. SOWERBUTTS.

During the year 1909, inspection has been made of the following : Wholesale fish, fruit and vegetable markets (daily) ; retail fish market (daily, Mondays excepted) ; general markets (Wednesday and Saturday) ; meat market (Saturday) ; cattle markets (fat and store stock) ; Corporation and private slaughter houses ; butchers', fishmongers', fruiterers', and greengrocers' shops ; hawkers' carts and barrows ; pork pie manufactories ; restaurants ; tripe auction ; tripe boilers' premises ; jam manufactory ; cold air stores (Corporation and private) ; gut scrapers' premises ; knackers' yard ; and cowsheds.

The amount of food voluntarily surrendered or seized is given in Statement G in the Chief Inspector's Report.

The number of carcasses destroyed during the year for tuberculosis was as follows :—

Beef	..	..	52 carcasses. 5 forequarters.
Pork	..	..	12 carcasses. 2 forequarters.
Mutton	..	..	1 carcase.

In addition to the above carcasses, 3 tons 0 cwt. 2 qrs. 26 lbs. of offals were destroyed on account of localised tuberculosis.

In our previous reports we have referred to the question of compensation to meat traders for the confiscation of carcasses affected with tuberculosis when purchased by them in good faith. Also that the National Federation of Meat Traders had suggested that butchers should not purchase cattle unless they were warranted free from tuberculosis by the vendor. This suggestion, although

acted upon by a few, the majority did not fall in with. One of the reasons for this being that an insurance company had been insuring cattle against tuberculosis and all other diseases for 1s. per head. This company has now ceased to exist, leaving the butchers nothing but the local Butchery Association to fall back upon for compensation, which is, of course, only given to their own members.

There were seven prosecutions during the year against persons for being in possession of unsound food, viz., one for dropsical beef, two for dropsical veal, two for tuberculous liver, one for flukey liver, and one for unsound fruit. Convictions were recorded in six instances, the one for dropsical beef failing on a technical point as to the tenancy of the premises.

There was one person cautioned by the Committee for being in possession of unsound food.

A carcase of beef was found in a private slaughter house to be affected with anthrax and reported.

During the year a Leicester butcher and cattle dealer was prosecuted by the Finsbury Borough Council for sending diseased meat to London. As the case was a very complicated one and presented considerable difficulty, the Leicester Health Department was asked to assist. This was done, and entailed a large amount of work. The meat was seized on October 12th, 1909, and the proceedings did not terminate until February 17th, 1910, when a conviction was obtained and a penalty of £100 and £25 costs inflicted.

APPENDIX VI.

REPORT OF THE HEALTH VISITORS

(MRS. HARTSHORN AND MISS WHYTE).

BIRTHS—FIRST VISITS AND RE-VISITS.

During the year 1909 2,010 first visits to notified births have been made. Of these 124 have been notified by medical men—the remainder being notified by midwives ; while five were visited that had not been notified at all. The majority of these cases have been re-visited intermittently—3,773 re-visits having been made in all. On account of the large number born who require visiting, it is found impossible to re-visit as often as desirable.

In most cases our visits have been much appreciated by the mothers. This is shown clearly by the welcome received, and expressions of regret when the final visits are made.

MEASLES, ILLEGITIMATE BIRTHS, AND STILL BIRTHS.

Thirty-three of the births were illegitimate.

Ten were notified as being still-born, while twenty-four were found dead when visited ; most of the latter being prematurely born.

Sixty cases were found to have some discharge from one or both eyes ; while six of these proved subsequently to be ophthalmia. The latter cases, acting upon advice, were treated either by private doctors or at the General Infirmary. Upon re-visiting, all of these had recovered or much improved.

In the early part of the year an epidemic of measles having broken out, 104 visits were made to houses thus affected. Seventeen investigations were made concerning deaths arising from same.

Twenty-six investigations were made *re* still-births, while fifteen investigations were also made into deaths of illegitimate children, to ascertain whether proper attention had been given during life.

"SPECIALS" AND COMPLAINTS.

Thirty-six homes were inspected where children had been removed to Infectious Hospital with dirty heads and verminous bodies.

264 visits have been made to dirty homes and neglected children. Of these eleven were found in need of temporary relief, and were reported to C.O.S. ; nine were destitute and reported to R.O. ; while eight who were found to be wilfully neglecting their children were reported to N.S.P.C.C. (Sample cases of such will be found appended.) Several rescue cases were reported to us from various sources, and have been dealt with as the occasion required, two being handed over to the Lady Police Court Missionary.

PHTHISIS.

422 visits have been made to Phthisis cases, notified by private and Poor Law doctors. Fifty re-visits have been made to same, to ascertain the carrying out of instructions.

HOUSE TO HOUSE INSPECTIONS.

1,200 house to house inspections have been made to the poorest localities, to ascertain if the homes were kept in a sanitary condition.

SAMPLES.

84 samples of milk, cream, and cheese have been taken for analysis.

WORKROOMS, &c

243 visits made to workrooms, retail shops, and restaurant kitchens, for the purpose of ascertaining conditions under which the employees work.

HOME-WORKERS.

665 visits have been made to home-workers. Nearly all of these were fairly satisfactory.

SAMPLE CASES.

(a) *Case of woman addicted to drink and neglecting family.*

The husband was in regular work, and employed by Midland Railway Company. The home was rendered almost destitute of furniture, bed-covering, and apparel, and boots that had been provided by the father for his children had been taken to the

pledge shop to procure drink. The husband at length had to withhold the money from his wife. After repeated visits and talks with the wife, she promised to amend, and improvement has since been maintained.

(b) Extreme case of filth, vermin, and general neglect of home and children.

Upon enquiry it was found that although £2 9s. was coming into the house weekly, there were no beds, and only old coats for covering. The family had been lying on the boards for five months. New beds were procured, and some pretence at cleaning the rooms was made, but there is still much room for improvement.

(c) Both mother and father had given way to drink, and for some time the children were sadly neglected. The father had been drinking to such an extent that at the time of visit his mind had become quite unhinged, and he attempted suicide in the presence of Inspectress. Doctor and Relieving Officer were called in.

APPENDIX VII.

REFUSE DISPOSAL DEPARTMENT.

REPORT OF THE SUPERINTENDENT, MR. J. L. FREER

I beg to submit the following particulars of work done in the Refuse Disposal Department during the past year.

Population of Borough	..	244,255
Area (in acres)		8,586
Miles of Streets		184 $\frac{3}{4}$

The *House Refuse* of the Borough is all collected by Corporation workmen with the exception of one small district (Knighton) which is still scavenged by contract. Almost all houses are now provided with the portable covered galvanised iron bins, of which there are 52,911. The Borough is divided into sixteen districts. The men work in gangs of six, with two horses and carts to each gang. Each gang is able to collect fifty-one loads per week, and the average earnings are 26s. per week for collectors and 27s. for drivers. The latter have to attend to their horses, whilst the collectors wash the carts and clean the harness. Drivers required for Sunday stable duty are granted an extra shilling.

The *Ash-pit Refuse* is collected as follows : The town is divided into five districts. There are five gangs of four men each, with two horses and carts to each gang. The men are paid 5d. per ton of refuse collected, and their average earnings are : Collectors 27s. per week ; drivers 29s. per week. The latter get *the extra* 2s. for attending to their horses and harness.

The following plant is in use : 63 carts, 47 railway wagons, 3 sloop carts, 2 canal boats, and 1 tip wagon.

The number of men employed is as follows :—

Portable Ash-bin Men	..	..	82
Ash-pit Men	..	..	20
Foremen	..	..	2
Wagoners	..	..	4
Wharf Men	..	..	7
" Tip " Men (at Destructors)	..	..	4
Old Men, sorting refuse	..	..	3
Total	..	..	122

The number of horses required is forty-four.

Portable Ash-bins collected weekly	52,911
Portable Ash-bins collected twice a week	494
Ash-pits emptied every 8 or 10 weeks	1,083
Manure Pits emptied at short intervals	230

AMOUNT OF REFUSE COLLECTED IN 1909.

From Portable Ash-bins	..	36,392
From Ash-pits	..	5,986
Trade Refuse	..	1,709
From Knighton District (House Refuse)		2,290
		46,377

Of this quantity, 1,018 tons were used to mix with manure ; the remainder was burnt at the destructors.

The amount of Stable Manure collected was 8,248 cart loads.

The Sales during 1909 were as follows :—

			£	s.	d.
Manure,	561 railway wagon loads,	weight 4,048 tons	543	8	0
„	11 boat loads	weight 440 tons	69	6	0
„	58 cart loads	weight 58 tons	6	3	6
Total			4,546	£618	17 6

3,530 loads of Trade Refuse (weight 1,709 tons) were removed and taken to the destructor, the payment received amounting to £441 5s. 0d.

[NOTE.—A charge of 2s. 6d. per load is made for collecting and burning trade refuse, or 2s. per ton for burning only.]

“TATTING.”

The saleable articles picked out of the House Refuse are sold and one-half of the proceeds is divided amongst the Ash-bin men and the Destructor Firemen, the other half being retained by the Corporation. The amount received by the men averages 5s. 10d. per head per quarter.

HOSPITAL SATURDAY SOCIETY.

All workers in this department subscribe 1d. weekly, the total amount realised last year being £26 5s. 6d.

AMOUNT OF REFUSE RECEIVED AT THE DESTRUCTORS IN 1909.

			Tons.
Nedham Street	..	..	11,529
Mill Lane	..	..	13,031
The Lero	..	..	12,658
West Humberstone	..	..	10,502
Total			47,720

1,666 dilapidated dust-bins were reported. These are renewed by the landlord.

J. L. FREER,
Superintendent.

APPENDIX VIII.

STREET CLEANSING DEPARTMENT.

REPORT OF THE SUPERINTENDENT, MR. H. F. WIGFIELD

The following is a resumé of the work carried out by the above Department during the year 1909.

STREET CLEANSING.

The particulars of the streets swept are as follows, viz. :—

	Hand-swept.	Machine-swept.
Once per week ..	44 miles	15 miles.
Twice „ ..	16 miles	12 miles.
Three times per week ..	5 miles	7 miles.
Four „ „ ..	1 $\frac{1}{4}$ miles	2 miles.
Six „ „ ..	1 mile	10 miles.

Upwards of eleven miles of streets are also hand-swept on Sundays.

The total length of the roads swept is 113 miles.

The number of gullies emptied during the year was 97,083.

The total number of streets swept by the Cleansing Department is 894, made up as follows :—

Number swept once a week, 539 ; twice per week, 196 ; three times per week, 66 ; four times weekly, 18 ; six times, 75 ; 78 streets are also swept on Sundays. Thus a length of 239 miles is down to be swept each week.

Loads of sweepings collected : Dry, 7,400 ; Sludge, 4,683 ; a total of 12,083, against 11,527 for the previous year. The number of persons regularly employed in the Department is 119.

The conditions of labour and the rates of pay remain as in the previous year, viz. :—27s. per week of 54 hours, on day work, and 48 hours on night work.

SANDING AND GRAVELLING.

The number of loads of sand and gravel spread last year was 1,516, compared with 1,415 in 1908.

SNOW REMOVAL.

The total loads of snow removed during the year was 3,723, against 2,204 in 1908; the total cost in excess of our own staff was £522 11s. 0d., made up as follows:—Overtime (own men), £46 11s. 2d.; Highway and Sewerage Department's men, £165 9s. 4d.; "Casuals," £207 14s. 0d.; and Hired Horses, £102 16s. 6d.

STREET WATERING.

There were eight hired horses engaged in street watering during the past summer, as against thirteen in 1908. The extra Tramway Watering Car which was built, enabled us to reduce the number of horses by five. In addition to the above eight hired horses, four of our own men and horses were engaged on this work in dry weather.

The watering done by the Tramways Department was as follows:—

1908.	Loads Spread.	Quantity in Gallons.	£	s.	d.
April ...	293	527,400	34	3	8
May ...	533	1,049,400	68	0	4
June ...	385	644,400	41	15	4
July ...	528	950,400	61	12	0
August ...	157	822,600	53	6	4
September ...	99	178,200	11	11	0
	2,318	4,172,400	270	8	8
Previous year	1,956	3,520,800	195	12	0

These watering cars work to instructions supplied daily by this Department. Owing to the very wet season, the cost of watering both by the Tramway tanks and the hired horses was considerably less than it otherwise would have been. About seventy tons of Calcium Chloride was spread on fifty-seven macadamised roads, at a cost (exclusive of carting and spreading), of £144 1s. 4d. Five other macadam roads were treated with 4 tons 8 cwt. of Granular Calcium Chloride at a cost of £13 11s. 2d.

ANNUAL STATEMENT OF RECEIPTS FROM CONVENIENCES.

Convenience.	Amount received.			Amount received previous year.
Horsefair Street (Ladies) ..	116	9	11	114 18 2
Belgrave Gate (Ladies) ..	3	16	6	2 16 9
Belgrave Gate (Gents) ..	11	2	9	6 16 5
Town Hall Square ..	11	19	10	8 2 10
Humberstone Gate ..	104	9	8	97 10 9
Waterloo Street ..	3	14	3	2 19 11
Haymarket ..	6	18	6	5 2 0
Northampton Square ..	6	17	0	4 10 2
Russell Square ..	2	12	9	2 5 2
	£268 1 2 ..			£245 2 2

At the Humberstone Gate Convenience 9,281 persons used the Lavatory accommodation, the amount taken being £38 13s. 5d. and the number of persons using the W.C.'s at this Convenience in 1909 was 15,795, against 13,916 in 1908.

At the Ladies Convenience, Horsefair Street, £4 18s. 5d. was taken for the Lavatory accommodation, 1,184 persons using this portion ; 1,968 persons left parcels, a sum of £8 4s. 0d. being received for the care of these.

ROLLING STOCK.

The following is a list of the vehicles used in this Department : Street sweeping carts, 18 ; sludge carts, 24 ; market cart, 1 ; orderly bin cart, 1 ; gravel carts, 5 ; watering carts and vans, 24 ; orderly trucks, 9 ; gravel trucks, 4 ; snow ploughs, 9 ; snow scraper orderly trucks, 9 ; gravel trucks, 4 ; snow ploughs, 9 ; snow scrapers, 5 ; horse brushies, 15 ; dray, 1 ; a total of 116 vehicles.

WORKSHOPS.

We employ eleven men in the workshops, viz. :—1 blacksmith ; 1 joiner ; 2 wheelwrights ; 1 painter ; 1 railway wagon repairer ; and 5 labourers. These men carry out all renewals and repairs both in the Cleansing and Refuse Departments—a total of 231 vehicles—including 47 railway wagons and two canal boats.

The total loads of material handled were as follows:

			1909.		1908.
Sweepings collected (dry)	..	..	7,400	..	6,438
" " (sludge)	..	..	4,683	..	5,089
Horse Manure collected (orderly boxes)	..		906	..	915
Market Refuse	..	..	967	..	1,084
Horse Manure, recarted to gardens		..	491	..	510
Sweepings	..	..	780	..	499
Loads of Snow removed	..	..	3,723	..	2,204
Loads of Gravel Spread	..	..	1,516	..	1,415
Loads of Water spread (our carts)		..	8,835	..	24,669
Miscellaneous	..	..	450	..	400
Stable Refuse to Jarvis Street	..	..	312	..	312
			30,063		40,535

The above figures show a decrease of 13,472 loads handled, as compared with the previous year ; this is owing to a reduction of 15,834 in the loads of water spread, which is accounted for by a very wet season and the substitution of a Tramway Watering Car in place of five horses and carts. We were also prevented during part of the summer from using the town water for street watering purposes. There was a large increase in the loads of sweepings collected and the loads of gravel spread.

H. F. WIGFIELD,

Cleansing Superintendent.

APPENDIX IX.



STATISTICAL TABLES.

MUNICIPAL WARDS. TABLE I.
AREA, NUMBER OF INHABITED HOUSES AND POPULATION.

WARD.		Area in Acres.	No. of Inhabited Houses Census 1901.	No. of Inhabited Houses July, 1909.	Increase in Inhabited Houses during 8 years.	Decrease in Inhabited Houses during 8 years.	No. of Persons per House Census 1901.	Population Census 1901.	Estimated Population, 1909.
1.	St. Martin's	...	808	612	...	196	4.69	3791	2870
2.	Newton	...	2442	2127	...	315	4.23	10330	8997
3.	St. Margaret's	...	2789	3040	251	...	4.53	12639	13771
4.	Wyggeston	...	3591	3270	...	321	4.42	15890	14453
5.	Latimer	...	3559	3570	1	...	1.84	17275	17278
6.	Charnwood	...	1988	1957	...	31	4.56	9084	8923
7.	Wycliffe	...	2760	2625	...	135	4.27	11810	10208
8.	De Montfort	...	1764	1646	...	118	4.48	7907	7371
9.	The Castle	...	3178	3110	...	68	4.52	14384	14192
10.	Westcotes	...	3713	5391	1678	...	4.51	16752	24313
11.	The Abbey	...	3756	4244	488	...	4.82	18116	20156
12.	Belgrave	...	3046	3612	566	...	4.51	13819	16398
13.	West Humberstone	...	887	3791	458	...	4.71	15717	17869
14.	Spinney Hill	...	702	5325	790	...	4.69	21279	21974
15.	Knighton	...	2236	3336	1100	...	4.57	10221	15245
16.	Aylestone	...	2033	2381	348	..	4.81	9860	11524

MUNICIPAL WARDS. TABLE II.
ZYMOTIC-RATES, DIARRHŒA-RATES AND PHTHISIS-RATES
IN 1909.

WARD.			Zymotic- rate, exclusive of Diarrhœa.	Diarrhœa- rate.	Phthisis- rate.
1.	St. Martin's	...	·3	·6	·3
2.	Newton	...	1·0	1·1	1·6
3.	St. Margaret's	...	1·0	1·0	·9
4.	Wyggeston	...	1·3	·9	1·7
5.	Latimer	...	·8	·3	1·3
6.	Charnwood	...	·7	·1	1·0
7.	Wycliffe	...	1·2	·1	2·1
8.	De Montfort	...	·2	·2	·5
9.	The Castle	...	1·0	·3	·8
10.	Westcotes	...	·5	·2	1·2
11.	The Abbey	...	1·4	·3	1·0
12.	Belgrave	...	·4	·4	1·4
13.	West Humberstone	...	1·6	·5	1·3
14.	Spinney Hill	...	·6	·2	·9
15.	Knighton	...	·1	·1	·9
16.	Aylestone	...	1·7	·8	1·0

N.B.—The deaths occurring in the Leicester Infirmary have been distributed to their respective wards. Those occurring in the Workhouse and in the Borough Asylum, have had to be excluded, as the addresses of the patients are not obtainable. In the case of Wards 7 and 13 a deduction has been made from the population on account of the inmates of the Workhouse and Asylum respectively.

The Union Infirmary is just outside the Borough, and the deaths there are distributed to their respective wards, with the exception of the deaths of persons transferred to the Infirmary from the Workhouse. These have been treated in the same way as the Workhouse deaths.

TABLE III.
Births, Deaths, and Deaths under 1 year in each Municipal Ward in 1909 and previous years.

NAME OF WARD.	1903			1904			1905			1906			1907			1908			1909		
	Total Deaths	Deaths under 1 year	Total Deaths under 1 year	Total Births	Total Deaths	Deaths under 1 year	Total Births	Total Deaths	Deaths under 1 year	Total Births	Total Deaths	Deaths under 1 year	Total Births	Total Deaths	Deaths under 1 year	Total Births	Total Deaths	Deaths under 1 year	Total Births	Total Deaths	
1. St. Martin's ...	41	10	53	13	55	47	9	55	70	13	57	45	11	54	51	12	51	28	6		
2. Newton ...	202	87	219	91	305	205	80	321	238	83	287	150	40	472	188	55	471	179	53		
3. St. Margaret's ...	198	79	210	74	387	202	66	417	210	72	372	215	68	357	238	61	341	194	53		
4. Wyggeston ...	236	101	240	101	500	236	100	490	213	109	404	282	94	456	278	100	441	274	73		
5. Latimer ...	214	91	266	81	495	233	75	515	261	80	472	267	80	480	265	73	417	229	55		
6. Charnwood ...	133	31	124	30	191	111	22	210	153	35	181	108	27	187	100	23	168	83	10		
7. Wychffe ...	157	58	138	62	302	167	48	223	261	56	197	162	28	190	276	29	176	172	32		
8. De Montfort ...	85	12	91	9	100	92	9	100	112	15	93	89	14	84	105	15	90	103	16		
9. The Castle ...	172	49	191	55	370	170	47	316	213	63	349	185	13	314	207	41	296	218	58		
10. Westcotes ...	202	63	218	58	483	225	56	508	255	61	531	190	14	485	171	52	471	245	50		
11. The Abbey ...	235	111	262	102	581	237	86	591	292	81	531	264	73	487	245	67	494	274	69		
12. Belgrave ...	175	72	207	81	178	199	72	502	220	81	454	212	47	451	206	51	394	216	42		
13. West Humberstone ...	180	61	176	59	514	212	60	518	159	64	496	187	47	481	269	58	476	238	65		
14. Spinney Hill ...	213	45	257	48	517	230	42	550	261	63	507	240	59	511	266	47	532	259	56		
15. Knighton ...	101	27	112	29	258	99	24	261	129	22	280	59	16	284	135	17	270	120	18		
16. Aylestone ...	142	82	143	78	316	145	67	288	174	71	261	111	28	271	116	30	275	129	32		

N.B.—In order to make a fair comparison, all the deaths at the Borough Asylum and Union Workhouse have been subtracted, but not distributed. The Poor Law Infirmary at North Evington is just outside the Borough Boundary. The deaths occurring there have been distributed in their respective Wards with the exception of those transferred to the Infirmary from the Workhouse; these have been dealt with in same way as Workhouse deaths.

TABLE IV.

Vital Statistics in each Municipal Ward in 1909 and previous three years.

NAME OF WARD.	1906			1907			1908.			1909		
	Death Rate.	Birth Rate.	Infant Mortality.	Death Rate.	Birth Rate.	Infant Mortality.	Death Rate.	Birth Rate.	Infant Mortality.	Death Rate.	Birth Rate.	Infant Mortality.
1. St. Martin's ...	19.9	15.6	236.3	15.1	19.5	192.9	17.3	18.1	222	9.7	17.7	117
2. Newton ...	25.2	34.1	258.5	16.6	31.7	139.3	20.7	25.4	239	19.8	24.2	213
3. St. Margaret's ...	15.2	30.3	172.6	16.0	27.3	182.7	17.5	26.3	179	14.0	24.7	155
4. Wyggeston ...	16.1	33.1	222.4	19.7	28.2	232.6	19.5	32.0	219	18.9	30.5	165
5. Latimer ...	15.2	29.7	155.3	15.7	28.1	167.3	15.6	28.8	152	13.2	24.1	131
6. Charnwood ...	16.9	23.2	166.6	12.2	20.5	149.1	11.2	20.9	123	9.3	18.8	59
7. Wychiffe ...	23.8	19.1	251.1	16.1	17.7	142.1	16.0	18.8	143	18.0	19.3	181
8. De Montfort ...	14.7	13.2	150.6	12.2	12.7	150.5	11.4	11.5	179	13.9	12.2	177
9. The Castle ...	14.7	21.8	199.3	13.2	25.0	123.2	14.8	22.5	131	15.3	20.8	195
10. Westcotes ...	11.3	22.5	120.0	8.7	23.1	82.3	7.4	20.8	107	10.0	19.3	106
11. The Abbey ...	14.5	29.3	142.1	13.2	26.6	137.4	12.2	24.4	138	13.3	24.1	139
12. Belgrave ...	13.6	31.1	167.3	13.1	28.2	103.7	12.8	28.2	120	13.1	24.0	106
13. West Humberstone ...	12.8	28.9	123.5	7.6	27.9	91.7	12.8	28.2	120	8.8	27.7	136
14. Spinney Hill ...	10.9	22.7	114.5	9.8	20.7	116.3	10.8	21.9	87	10.3	21.3	105
15. Knighton ...	9.3	18.9	84.3	6.9	19.6	57.1	9.2	19.3	60	7.8	17.7	66
16. Aylestone ...	15.6	25.6	246.5	9.9	23.3	107.6	10.3	24.3	109	11.1	23.8	116
Whole Borough ...	14.39	25.26	166.2	12.65	23.43	130.1	12.98	23.61	129.7	12.90	22.23	126.6

NOTE.—The population has been calculated from the number of inhabited houses in each ward.

Wycliffe Ward contains the Union Workhouse, and West Humberstone Ward the Borough Asylum. It is not possible to distribute the deaths in these institutions to their respective wards, but they have been subtracted from the wards in question in order to enable a fair comparison to be made. The population of these institutions (Workhouse—1100; Asylum—700) has also been subtracted.

The Union Infirmary is just outside the Borough Boundary. The deaths occurring there have been distributed to their respective wards, with the exception of the deaths of persons who had been transferred to the Infirmary from the Workhouse. These have been treated in the same way as Workhouse deaths.

The Maternity Hospital, Causeway Lane, is in Newton Ward. The 256 births which occurred there have been subtracted, but not distributed.

TABLE IVa. MUNICIPAL WARDS.

Average Death-rate, Birth-rate, and Infant Mortality for
five years 1905-9.

WARD.	Average Rates.		
	Death-rate.	Birth-rate.	Infant Mortality.
1. St. Martin's	14.8	14.2	186
2. Newton	20.6	29.3	228
3. St. Margaret's	15.4	27.3	171
4. Wyggeston	18.0	31.3	207
5. Latimer	14.6	27.8	151
6. Charnwood	12.3	20.9	122
7. Wycliffe	17.8	20.2	175
8. De Montfort	13.3	12.4	149
9. The Castle	13.9	23.0	155
10. Westcotes	9.5	21.6	106
11. The Abbey	13.0	26.8	140
12. Belgrave	13.0	28.2	129
13. West Humberstone	10.0	28.3	117
14. Spinney Hill	10.2	21.9	99
15. Knighton	8.1	19.0	72
16. Aylestone	12.0	25.1	158

TABLE V.
Deaths in each Ward from all causes in 1909.

No.	WARD.	Age.				Total all ages.	Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria.	Typhoid Fever.	Other Zymotics.	Total.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Other Causes.	Convulsions.	Total.
		0 to 1 year.	1 to 5.	5 to 60.	Over 60 years.															
1.	St. Martin's	6	1	12	9	28	..	1	..	..	..	..	..	1	10	1	8	15	1	27
"	Newton	53	19	62	45	179	..	4	1	..	1	..	..	9	10	15	28	109	2	170
3.	St. Margaret's	53	26	71	44	194	..	4	..	6	1	1	1	15	14	13	29	116	7	179
4.	Wyggeston	73	42	96	63	274	..	12	3	..	..	3	1	19	14	26	54	157	4	255
5.	Latimer	55	30	75	69	229	..	4	3	6	1	..	1	15	6	24	36	139	9	214
6.	Charnwood	10	10	29	34	83	..	1	1	2	1	..	1	1	1	9	10	56	..	76
7.	Wycliffe	32	13	77	149	271	..	7	1	2	1	..	..	11	5	22	53	178	2	260
8.	De Montfort	16	4	28	55	103	..	..	2	6	1	..	..	15	5	12	19	72	4	101
9.	The Castle	58	23	48	89	218	..	7	..	..	..	..	..	13	5	12	43	136	7	263
10.	Westcotes	50	22	83	90	245	..	10	1	..	1	..	2	14	7	31	45	140	8	231
11.	The Abbey	69	32	96	77	274	..	17	1	7	1	1	1	28	7	21	49	162	7	246
12.	Belgrave	42	17	85	72	216	..	6	..	..	1	..	..	7	8	24	32	141	4	209
13.	West Humberstone	65	35	79	59	238	..	18	4	4	2	..	1	29	9	23	43	121	13	209
14.	Spinney Hill	56	19	95	89	259	..	9	1	3	2	..	1	16	5	29	53	154	2	243
15.	Knighton	18	4	48	50	120	..	1	..	2	..	..	..	3	2	15	24	74	2	117
16.	Aylestone	32	21	45	31	129	..	18	1	2	..	..	..	21	9	12	19	63	5	105
Union Workhouse		..	..	3	5	8	..	..	..	..	..	..	..	..	..	..	..	8	..	8
Borough Asylum		..	..	42	43	85	..	..	..	..	..	..	1	1	..	9	13	62	..	84

Deaths in Institutions have been subtracted from the Wards in which the Institutions are situated, except in the case of the Workhouse and Asylum; the deaths have been allocated to the Wards to which they belong.

TABLE VI.
Vital Statistics of 33 Great Towns of over 100,000 Population (arranged in Alphabetical Order).
(From figures supplied in advance by the Registrar General.) For the year 1909.

TOWNS.	Death-rate for 5 years, 1904-1908†	Estimated Population, 1909.	Death-rate (corrected for Institutions only).	Birth-rate.	Deaths under one year per 1000 Births.	Death-rates per 1000 persons living from :—					Principal Epidemic Diseases.				
						Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Dysentery.					
London	...	...	11.9	...	1,833,938	14.0	24.2	108	0.48	0.08	0.13	0.26	0.03	0.33	1.31
Birkenhead	...	...	16.7	...	121,123	15.9	30.9	123	0.33	0.13	0.15	0.12	0.01	0.40	1.17
Birmingham	...	...	17.0	...	563,629	15.4	26.6	134	0.93	0.19	0.16	0.26	0.04	0.45	2.03
Blackburn	...	...	16.1	...	136,959	16.3	22.9	126	0.31	0.38	0.15	0.17	0.13	0.35	1.49
Bolton	...	...	15.9	...	187,821	15.1	24.7	128	0.23	0.13	0.09	0.17	0.18	0.33	1.13
Bradford	...	...	15.9	...	293,983	11.5	18.8	116	0.08	0.07	0.17	0.15	0.05	0.16	0.68
Brighton	...	...	11.8	...	130,926	15.3	20.5	96	0.01	0.06	0.15	0.17	0.05	0.21	0.65
Bristol	...	...	11.3	...	377,612	12.7	22.6	100	0.21	0.03	0.14	0.14	0.03	0.27	0.50
Burnley	...	...	18.2	...	106,267	16.1	25.1	156	0.20	0.15	0.14	0.15	0.08	0.58	1.30
Cardiff	...	...	11.0	...	195,303	13.1	25.8	103	0.11	0.04	0.07	0.26	0.01	0.32	0.85
Croydon	...	...	13.0	...	161,078	11.7	21.4	80	0.13	0.06	0.15	0.19	0.02	0.12	0.67
Derby	...	...	11.3	...	129,411	13.1	21.9	123	0.36	0.03	0.26	0.33	0.02	0.26	0.26
Gateshead	...	...	16.1	...	131,021	12.7	28.7	112	0.20	0.11	0.12	0.13	0.01	0.31	0.91
Halifax	...	...	14.7	...	111,911	13.9	16.5	97	0.03	0.17	0.21	0.15	0.06	0.12	0.77

Hull	...	...	16.8	275,552	14.9	29.4	114	0.31	0.04	0.23	0.18	0.04	0.57	1.38
Leeds	...	...	15.9	481,012	14.1	22.8	122	0.16	0.02	0.13	0.17	0.09	0.23	0.80
Leicester	...	...	13.5	244,255	12.9	21.9	127	0.41	0.09	0.06	0.21	0.02	0.43	1.22
Liverpool	...	...	20.2	760,357	19.0	31.1	114	0.61	0.28	0.15	0.30	0.07	0.70	2.11
Manchester	...	...	18.9	655,435	17.9	27.8	134	0.62	0.26	0.17	0.19	0.14	0.43	1.81
Newcastle-on-Tyne	...	...	17.0	281,584	14.8	27.3	119	0.40	0.11	0.19	0.26	0.06	0.20	1.22
Norwich	...	...	16.2	121,136	13.9	24.3	119	0.68	0.07	0.15	0.16	0.07	0.41	1.54
Nottingham	...	...	16.6	263,443	16.3	25.7	150	0.54	0.04	0.10	0.22	0.08	0.69	1.67
Oldham	...	...	18.8	143,301	19.1	27.4	119	0.33	0.11	0.10	0.11	0.08	0.36	1.09
Portsmouth	...	...	15.6	211,726	14.2	27.2	96	0.49	0.09	0.31	0.13	0.15	0.25	1.42
Plymouth	...	...	16.3	124,180	14.5	22.4	131	0.43	0.05	0.15	0.19	0.07	0.31	1.20
Preston	...	...	18.7	118,519	15.8	25.7	136	0.16	0.07	0.09	0.56	0.09	0.33	1.30
Salford	...	...	18.4	211,950	18.9	27.9	141	0.80	0.34	0.44	0.19	0.18	0.50	2.45
Sheffield	...	...	16.6	470,958	15.1	28.2	118	0.88	0.09	0.08	0.11	0.07	0.55	1.78
Southampton	...	...	13.4	124,667	13.4	23.6	106	0.00	0.04	0.15	0.34	0.10	0.42	0.50
South Shields	...	...	16.7	117,627	15.1	29.0	137	0.32	0.16	0.17	0.31	0.03	0.38	1.37
Sunderland	...	...	18.7	159,378	16.9	29.3	135	0.03	0.10	0.20	0.23	0.09	0.33	1.98
West Ham	...	...	15.1	321,767	14.0	27.2	121	0.69	0.17	0.13	0.58	0.02	0.65	2.24
Wolverhampton	...	...	14.9	104,633	16.0	23.8	138	1.44	0.07	0.11	0.36	0.03	0.29	2.30

TABLE VII.

Showing mean Weekly Temperature of Earth at Depth of 1 ft.
and 4 ft. for the Year 1909.

Week ending,				1 foot.	4 feet.	Number of Deaths per week from Diarrhoea.
May	22	...	...	53.0	50.2	...
"	29	...	...	56.0	50.2	2
June	5	...	...	57.0	50.5	1
"	12	...	...	56.0	51.0	...
"	19	...	...	56.2	52.2	...
"	26	...	...	57.0	53.2	...
July	3	...	...	57.5	51.0	...
"	10	...	...	58.2	55.2	1
"	17	...	...	58.7	55.7	2
"	24	...	...	61.0	56.5	1
"	31	...	...	61.2	58.2	3
Aug.	7	...	...	62.2	58.5	2
"	14	...	...	63.2	59.0	7
"	21	...	...	63.0	59.0	15
"	28	...	...	58.7	58.7	22
Sept.	4	...	...	56.0	57.5	8
"	11	...	...	55.0	55.5	9
"	18	...	...	55.0	55.5	8
"	25	...	...	54.7	55.5	9
Oct.	2	...	...	54.5	55.0	2
"	9	...	...	54.0	55.0	1
"	16	...	...	53.0	54.5	1
"	23	...	...	52.0	54.0	3
"	30	...	...	52.0	54.0	..

TABLE VIII.

Weekly Deaths from Diarrhœa from 1898-1909.

Week of the Year.	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
25th	.. 1	1	3	1	2	0	0	0	1	0	0	0
26th	.. 2	5	2	1	3	1	1	0	0	2	0	0
27th	.. 1	1	4	1	2	0	1	1	1	2	1	0
28th	.. 4	3	4	2	1	0	2	3	1	2	1	1
29th	.. 4	4	12	4	1	3	5	3	1	0	2	2
30th	.. 14	11	21	15	2	1	8	15	2	0	0	1
31st	.. 18	24	16	17	0	9	21	18	3	1	1	3
32nd	.. 32	25	25	17	0	9	30	33	10	0	10	2
33rd	.. 28	31	27	24	2	9	43	24	18	1	12	7
34th	.. 35	46	38	22	2	12	31	25	32	1	11	15
35th	.. 48	36	38	27	3	15	30	25	35	2	13	22
36th	.. 31	42	24	29	4	8	24	18	46	4	11	8
37th	.. 32	17	12	16	6	10	24	15	28	2	3	9
38th	.. 24	7	18	6	10	8	13	9	30	7	6	8
39th	.. 10	3	11	8	19	6	8	3	11	9	2	9
40th	.. 13	2	7	10	16	6	7	1	6	13	10	2
41st	.. 4	3	4	5	19	2	3	1	8	10	4	1
42nd	.. 3	3	2	2	10	1	6	3	1	3	7	1
43rd	.. 3	1	3	2	8	2	4	1	4	4	5	3
44th	.. 6	0	1	1	5	0	2	0	1	1	4	0

TABLE VIII (a).
Diarrhoea and Enteritis Statistics.

Year.	Diarrhoea Deaths.	Diarrhoea rate per 1000 population.	Enteritis Deaths.	Diarrhoea and Enteritis Deaths.	Mean Temperature. Four-foot earth, ten hottest weeks*
1884	344	1.68	13	357	
1885	186		12	198	
1886	256		15	271	
1887	247		10	257	
1888	148		13	161	
1889	121	1.30	15	136	
1890	218		27	245	
1891	204		22	226	
1892	211		22	236	
1893	399		22	421	
1894	176	1.55	17	193	
1895	369		50	419	
1896	272		68	340	
1897	360		112	472	59.7
1898	323		86	409	59.3
1899	292	1.00	109	401	61.3
1900	286		90	376	59.7
1901	224		78	302	60.1
1902	137		42	179	57.6
1903	133		52	185	57.6
1904	275	.79	35	310	59.5
1905	211		32	243	60.2
1906	258		54	312	59.8
1907	73		58	131	57.5
1908	120		63	183	58.6
1909	106		29	135	57.4

* The figures in this column are the mean reading of the four-foot earth thermometer during the ten consecutive weeks when the earth temperature was at its maximum. The average for the ten years 1897-1906 was 59.4.

TABLE IX.

LEICESTER BOROUGH.

Showing estimated Population, Marriage-rates, Birth-rates, and Death-rates (General and Zymotic) per 1000 living during the last 64 years, 1845-1909.

Year.	Estimated Population.	Marriage Rate.	Birth Rate.	Death Rate.	Zymotic (Death) Rate.
1845	54,737	24.04	40.14	30.85	9.07
1846	55,707	21.00	39.72	29.48	8.11
1847	56,696	18.80	35.36	25.69	4.12
1848	57,705	20.86	34.71	25.77	5.87
1849	58,736	21.58	36.96	28.73	7.05
1850	59,788	24.04	37.45	23.64	4.13
1851	60,760	21.11	40.11	25.57	5.48
1852	61,467	22.96	38.83	28.84	8.42
1853	62,181	22.90	36.71	27.02	5.45
1854	62,903	20.40	39.06	25.11	6.65
1855	63,624	19.14	36.16	23.55	2.87
1856	64,366	20.02	37.32	21.16	3.10
1857	65,119	20.60	37.48	27.58	8.19
1858	65,835	19.14	34.54	28.76	8.07
1859	66,663	22.56	37.77	24.59	4.99
1860	67,456	19.80	38.05	20.47	1.27
1861	68,638	18.58	37.01	25.25	5.71
1862	70,986	21.30	38.37	23.38	3.01
1863	73,413	25.74	40.00	29.95	7.96
1864	75,922	25.68	41.01	26.96	5.41
1865	78,516	25.38	41.09	25.02	5.20
1866	81,197	24.94	42.02	23.33	3.37
1867	83,970	22.18	41.66	24.59	4.31
1868	86,837	22.62	41.32	28.15	7.88
1869	89,804	21.12	41.87	25.60	5.10
1870	92,873	21.22	40.90	27.33	7.24
1871	95,823	23.06	41.55	26.07	5.83
1872	98,251	23.90	42.36	26.95	8.23
1873	100,741	24.00	44.14	23.83	5.05
1874	103,294	20.90	42.34	24.29	3.83
1875	105,913	22.36	40.31	27.28	6.56
1876	108,599	22.64	44.02	23.58	5.26
1877	111,355	21.24	42.68	23.48	3.21
1878	114,182	19.38	41.85	21.89	4.18
1879	117,083	19.48	40.11	22.64	3.06
1880	120,059	19.60	40.04	24.73	6.48
1881	123,146	18.66	38.26	21.55	4.45
1882	126,275	19.02	38.46	20.04	3.23

TABLE IX. Continued.

Year.	Estimated Population.	Marriage Rate.	Birth Rate.	Death Rate.	Zymotic (Death) Rate.
1883	129,483	18·64	37·26	19·18	2·56
1884	132,773	17·34	36·53	22·12	4·20
1885	136,117	16·36	34·39	19·39	3·32
1886	139,606	17·46	34·80	19·62	2·81
1887	143,153	16·60	32·79	19·10	3·05
1888	146,790	15·48	32·79	18·16	2·45
1889	150,520	16·08	31·82	16·63	2·30
1890	154,344	16·52	30·44	17·79	2·48
1891*	177,353 [†]	19·16	33·58	21·22	3·39
1892‡	180,550	16·71	32·21	18·00	2·57
1893	183,900	15·85	32·65	19·72	3·55
1894	187,250	16·70	32·01	14·57	1·93
1895	190,600	16·41	31·28	17·41	3·01
1896	194,100	17·52	32·00	16·88	2·98
1897	197,600	16·78	31·63	17·98	1·97
1898	201,250	17·78	30·56	17·29	3·41
1899	204,900	17·58	30·61	18·18	3·41
1900	208,600	17·30	29·75	17·87	3·60
1901	212,498	17·17	29·03	15·71	2·34
1902	216,389	16·19	29·17	14·65	1·54
1903	220,272	16·20	27·31	13·91	1·53
1904	224,186	16·46	26·67	14·56	1·95
1905	228,132	16·53	25·81	13·42	1·64
1906	232,111	15·32	25·28	14·39	2·33
1907	236,124	15·64	23·43	12·65	·90
1908	240,172	14·88	23·64	12·98	1·51
1909	244,255	14·48	22·23	12·30	1·25

N.B. - The above figures, prior to the year 1890, are those supplied by Mr. J. T. Biggs to the Royal Commission on Vaccination, and are taken from the Commission's 4th Report.

* All figures after 1891 refer to extended Borough.

† This is the Population of the extended Borough. The figures in the other columns for same year refer to the old Borough.

‡ The figures for the nine years, 1892-1900, have been revised on the basis of the 1901 Census.

TABLE X.

Number of Deaths from certain specified causes in 1909 and previous years.

	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
Zymotic Diseases (except Diarrhoea)	389	432	519	297	222	205	177	171	291	146	250	212
Diarrhoea	323	292	286	224	137	133	289	241	258	73	420	106
Enteritis	86	109	90	78	42	52	35	32	25	58	63	29
Cancer	116	139	140	161	171	192	213	180	168	199	214	195
Phthisis	221	202	230	271	272	266	353	288	339	275	287	290
Apoplexy and Paralysis	164	187	164	182	207	179	201	165	185	150	169	170
Convulsions	170	151	134	159	120	117	107	89	98	85	103	83
Heart Disease	271	291	305	290	313	322	301	313	322	369	312	357
Bronchitis and Pneumonia	553	565	623	491	480	421	405	397	422	461	422	535
Premature Birth	131	143	135	130	151	151	111	147	156	133	113	106
Atrophy and Debility	166	209	187	201	191	168	187	173	160	119	121	132
Old Age	189	221	211	198	211	218	240	247	207	242	205	214
Violence	67	115	109	110	110	88	87	84	96	85	88	86
Ill-defined and not specified causes	19	23	38	42	53	45	49	48	85	31	61	40

TABLE XI.
Showing the number of Notification Certificates for the principal Zymotic Diseases for the fourteen years,
1896-1909.

DISEASE.	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
Small Pox ...	0	0	0	0	0	4	9	406	321	5	1	0	0	0
Scarlet Fever ..	2110	1645	923	1247	839	758	826	533	554	1117	2301	1710	1206	1768
Diphtheria ...	170	229	218	892	1452	1034	320	211	97	173	315	178	123	140
Enteric Fever ...	283	215	237	162	117	126	81	58	64	68	67	47	43	36
Erysipelas ...	264	218	230	341	306	181	225	214	239	253	158	166	162	196
Puerperal Fever ...	18	20	11	18	26	12	15	11	16	20	10	10	12	8
Phthisis (Voluntary) ...	...	...	...	...	...	...	...	156	182	225	215	212	197	172
„ (Poor Law) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	327
TOTALS ...	2845	2327	1619	2660	2740	2115	1476	1389	1473	1861	3067	2323	1743	2647

NOTE.—Prior to the year 1900 a Local Notification Act was in force, under which first cases only in a house were notifiable. The figures therefore, prior to that year, refer to infected “houses,” not “persons.”

TABLE XII.

Showing the Number of Deaths from Zymotic Diseases in the Thirteen Years 1897-1909.

DISEASE.	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
Small Pox ..	0	0	0	0	0	5	21	4	0	0	0	0	0
Measles ..	12	211	31	49	17	73	74	32	53	80	60	167	109
Scarlet Fever..	73	44	42	28	6	11	15	4	36	52	44	29	23
Diphtheria ..	73	63	222	316	155	29	28	6	11	27	17	9	14
Whooping Cough	82	19	84	46	77	67	36	89	50	112	14	30	51
Enteric Fever	38	27	28	26	20	12	13	14	9	14	5	8	5
Diarrhoea ..	360	323	292	286	224	137	133	289	211	258	73	120	106
Erysipelas ..	6	9	13	5	5	6	9	6	3	2	4	5	6
Influenza ..	0	14	6	41	13	14	6	17	2	0	17	15	19
Puerperal Fever	7	2	6	8	4	5	3	5	7	4	2	2	4
TOTALS ..	651	712	724	805	521	359	338	466	382	549	236	385	337

TABLE XIII.
Showing the Number of Inhabited Houses, Marriages, Births, Deaths, Zymotic Deaths, and Deaths in Public Institutions.

Year.	No. of Inhabited Houses.	Marriages.	Registered Births.	Corrected Number of Deaths.			Deaths in Public Institutions.	Deaths from Seven Principal Zymotic Diseases.
				Total all Ages.	Under One Year.	Under Five Years.	Over 60 Years.	
1893	37,895	1458	6006	3627	1324	1768	746	726
1894	38,818	1564	5995	2730	971	1301	564	363
1895	39,438	1564	5962	3320	1232	1611	774	573
1896	40,349	1701	6212	3277	1154	1624	689	580
1897	41,519	1658	6252	3553	1288	1758	746	645
1898	44,472	1789	6152	3480	1183	1703	773	687
1899	44,585	1801	6273	3727	1230	1707	897	699
1900	44,884	1805	6207	3729	1083	1627	863	751
1901	45,547	1825	6169	3338	1098	1435	827	499
1902	47,712	1752	6313	3172	981	1303	828	334
1903	48,348	1785	6018	3065	971	1279	954	320
1904	49,043	1845	5981	3266	964	1255	897	438
1905	49,348	1886	5888	3062	863	1148	897	370
1906	49,492	1778	5865	3341	975	1397	871	543
1907	48,825	1847	5534	2988	720	989	927	213
1908	49,174	1788	5680	3119	737	1109	932	263
1909	50,070	1769	5431	3153	688	1006	1073	308

NOTE. In 1891 (Census year) the Borough was extended.

No. of Inhabited Houses of old Borough was 29,288; of new Borough, 35,795.

TABLE XIV.
Showing the Annual Death-rates of Children, and proportion of Deaths in Public Institutions in a
Thousand Deaths, for the past seventeen years.

In Year	Deaths of Children under one year per 1000 Births, -Infant Death-rate.	Deaths of Children under one year of age per 1000 of Total Deaths.	Deaths of Children under five years of age per 1000 of Total Deaths.	Deaths of Persons over sixty per 1000 of Total Deaths.	Deaths in Public Institutions per 1000 of Total Deaths.
1893	220.4	365.0	487.4	205.6	124.0
1894	161.9	355.6	476.5	206.5	140.2
1895	206.6	371.0	485.2	233.1	119.2
1896	185.7	352.1	495.5	301.8	134.5
1897	206.0	362.5	494.7	209.9	95.7
1898	191.1	311.2	489.2	222.1	116.6
1899	196.0	330.0	458.0	237.9	145.7
1900	174.4	290.4	436.3	231.4	156.3
1901	178.6	328.9	429.0	247.7	165.6
1902	153.3	327.0	410.7	261.0	145.3
1903	161.3	323.6	426.3	311.2	194.3
1904	161.1	298.2	384.2	274.6	184.0
1905	146.5	281.8	374.9	292.9	223.7
1906	166.2	296.8	418.1	260.7	199.6
1907	130.1	240.9	330.9	310.2	220.8
1908	129.7	236.2	355.5	305.2	162.5
1909	126.6	218.1	319.0	340.3	192.8

TABLE XV.

Rates of Mortality of Children under one year of age from the chief Infantile Diseases, per 1000 Births.

DISEASE.	1904		1905		1906		1907		1908		1909	
	Total Deaths.	Rate per 1000 Births.	Total Deaths.	Rate per 1000 Births.	Total Deaths.	Rate per 1000 Births.	Total Deaths.	Rate per 1000 Births.	Total Deaths.	Rate per 1000 Births.	Total Deaths.	Rate per 1000 Births.
From all causes	964	161.1	863	146.5	975	163.2	720	130.1	737	129.7	688	126.6
Atrophy and Debility	180	30.0	164	27.8	127	21.7	112	20.4	113	19.8	117	21.5
Diarrhoea	242	41.4	186	31.5	223	38.0	66	12.0	103	18.1	91	16.7
Convulsions	87	14.5	79	13.4	79	13.5	72	13.1	86	15.1	70	12.8
Lung Diseases	91	15.2	91	15.9	113	19.3	125	22.8	88	15.4	91	16.7
Premature Birth	111	18.5	117	24.9	156	26.6	133	24.2	113	19.8	106	19.5
Tubercular Diseases	49	8.1	45	7.6	31	5.3	36	6.5	31	5.1	22	4.0
Measles	11	1.8	16	2.7	26	4.4	12	2.1	31	5.9	23	4.2
Whooping Cough	50	8.3	21	3.5	52	8.9	9	1.6	19	3.3	26	4.7

TABLE XVI.

Total Deaths, Death-rate, and Percentage of Deaths, from the eight principal groups of Diseases.

DISEASE.	1906.				1907.				1908.				1909.			
	Total Deaths.	Rate per 1000 Living.	Relative Percentage of Total Deaths.	Total Deaths.	Rate per 1000 Living.	Relative Percentage of Total Deaths.	Total Deaths.	Rate per 1000 Living.	Total Deaths.	Rate per 1000 Living.	Relative Percentage of Total Deaths.	Total Deaths.	Rate per 1000 Living.	Relative Percentage of Total Deaths.	Total Deaths.	Rate per 1000 Living.
Zymotic	...	569	2.5	17.03	253	1.07	8.1	107	1.7	13.0	35.2	1.4	11.1			
Parasitic	...	1	.00	.02	0	.00	.00	0	.00	.00	0	.00	.00			
Dietetic	...	9	.03	.2	7	.02	.2	1	.01	1	.8	.03	.2			
Constitutional	...	616	2.8	19.3	612	2.5	20.4	665	2.7	21.3	647	2.6	20.3			
Local	...	1390	5.9	41.6	1476	6.2	49.3	1428	5.9	45.7	1544	6.3	48.9			
Developmental	...	545	2.3	16.3	521	2.2	17.5	466	1.9	14.9	476	1.9	15.0			
Violence	...	96	.4	2.9	85	.3	2.8	88	.3	2.8	86	.3	2.7			
Ill-defined	...	85	1	2.5	31	.1	1.0	61	.2	1.9	40	.1	1.2			

TABLE XVII.
ENTERIC FEVER. Cases and Deaths in past years.

Year.	Population (in round numbers).	Cases Notified.	Deaths.	Cases per 1000 Pop.	Deaths per 1000 Pop.
1881	123,000	179	29	1·455	·235
1882	126,000	110	19	·873	·150
1883	129,000	85	10	·658	·117
1884	133,000	55	16	·413	·120
1885	136,000	216	36	1·588	·264
1886	140,000	141	19	1·007	·135
1887	143,000	222	31	1·552	·216
1888	147,000	266	32	1·809	·217
1889	151,000	147	22	·973	·145
1890	154,000	165	24	1·071	·155
1891	177,000	178	29	1·005	·163
1892	180,000	116	17	·644	·094
1893	184,000	392	47	2·130	·255
1894	187,000	215	27	1·149	·144
1895	191,000	248	38	1·298	·198
1896	194,000	283	40	1·458	·206
1897	198,000	215	38	1·085	·191
1898	201,000	237	27	1·179	·134
1899	205,000	162	28	·790	·136
1900	209,000	117	26	·359	·124
1901	212,000	126	20	·591	·094
1902	216,000	81	12	·371	·055
1903	220,000	58	13	·263	·059
1904	224,000	61	14	·285	·062
1905	228,000	68	9	·298	·039
1906	232,000	67	14	·288	·060
1907	236,000	47	5	·199	·021
1908	240,000	43	8	·179	·033
1909	244,000	36	5	·147	·020

N.B.—Prior to the year 1900 the figures indicate first cases only in a house.

TABLE XVIII.

Occupations of Persons aged Ten Years and upwards in Leicester,
CENSUS 1901.

MALES.	Number of Persons Engaged.
Commercial or Clerks	2020
Conveyance of Men, Goods and Messengers ..	6684
Agriculture, on Farms, Woods and Gardens ..	895
Engineering and Machine Making	2893
Cycles, Coaches and other Vehicles	661
Building and Works of Construction	7006
Wood, Furniture, Fittings and Decorations ..	1441
Brick, Cement, Pottery and Glass	253
Paper, Prints, Books and Stationery	1603
Hosiery Manufacture	3282
Other Textile Manufactures	781
Tailors.. .. .	1129
Boot, Shoe, Slipper, Patten and Clog-makers ..	17770
Food, Tobacco, Drink and Lodging	5187
All other Occupations	14374
Total Occupied	65979
Retired or Unoccupied	10270
Total, Occupied or Unoccupied ..	76249

TABLE XVIII (a).

Occupations of Persons aged Ten Years and upwards in Leicester,
CENSUS 1901.

FEMALES.	No. of Persons Engaged.		
	Unmarried.	Married or Widowed.	Total.
Midwives, Nurses, &c.	209	230	439
Teaching	989	36	1025
Art, Music, Drama, &c.	203	73	276
Domestic Service, Indoor	4535	364	4899
Charwomen, Laundry, &c.	519	1102	1621
Commercial, Clerks, &c.	491	8	499
Conveyance of Men, Goods & Messengers	301	8	309
Chemicals, Oil, Soap, &c.	287	103	390
Paper, Prints, Books and Stationery	1041	200	1241
Textile Fabrics, Hosiery	6522	2585	9107
Other Textile Manufactures	1245	312	2057
Dealers in Textiles, Drapers, &c.	469	95	565
DRESS :—			
Tailors	1102	232	1464
Milliners and Dressmakers	1975	619	2594
Shirt-Makers, Seamstresses	294	140	434
Boot, Shoe, Slipper, Patten, Clog Makers	5924	2467	8791
Other Workers	979	392	1371
Food, Tobacco, Drink, and Lodging	1953	1327	3280
All other Occupations	661	412	1073
Total Occupied	29699	11736	41435
Retired or Unoccupied ¹	12833	34923	47756
Total, Occupied and Unoccupied (10 years old and upwards)	42532	46659	89191

TABLE XIX.

Primary Vaccinations Registered in Leicester, 1882-1909.

PRIMARY VACCINATIONS.				Total Number of Births.	No. of Exemptions granted.
Year.	Public.	Private.	Total.		
1882	1710	1396	3106	4856	...
1883	1203	755	1958	4787	...
1884	994	769	1763	4921	...
1885	908	934	1842	4652	...
1886	611	511	1122	4857	...
1887	196	275	471	4679	...
1888	72	242	314	4787	...
1889	27	145	172	4789	...
1890	12	119	131	4699	...
1891	6	86	92	4790	...
1892	12	121	133	5816	...
1893	44	205	249	6006	...
1894	29	104	133	5995	...
1895	12	63	75	5692	...
1896	19	67	86	6212	...
1897	11	70	81	6252	...
1898	12	80	92	6152	...
1899	56	100	156	6273	167
1900	155	188	343	6207	598
1901	148	209	357	6169	500
1902	770	467	1237	6313	1500
1903	1859	628	2487	6018	1029
1904	753	529	1232	5984	1044
1905	378	609	987	5888	1112
1906	401	672	1073	5865	1080
1907	474	619	1093	5481	1256
1908	461	498	659	5680	2401
1909	205	455	660	5431	2367

TABLE XX.
Table showing the Number of Deaths from Tubercular Diseases
in Leicester in the past Twenty Years.

Year.	Phthisis.	Tubes Mesenterica.	Tubercular Meningitis.	Other Tubercular Diseases†	Total Tubercular Deaths.	Deaths per 1000 Popula- tion living.
1890	197	15	26	29	267	1·7
1891	181	11	34	24	250	1·4
*1892	216	21	65	38	340	1·8
1893	250	17	83	40	390	2·1
1894	207	14	59	31	311	1·6
1895	189	21	80	40	330	1·7
1896	220	10	69	44	348	1·7
1897	215	16	73	44	343	1·7
1898	221	17	83	37	358	1·7
1899	202	18	81	30	331	1·5
1900	230	8	91	45	374	1·7
1901	271	15	62	3	351	1·6
1902	272	9	77	0	358	1·6
1903	266	7	101	3	377	1·7
1904	353	8	78	10	449	2·00
1905	288	10	63	14	375	1·64
1906	339	7	56	8	410	1·76
1907	275	5	70	24	374	1·58
1908	287	5	83	16	391	1·62
1909	290	1	54	27	372	1·52

* The figures after the year 1891 refer to the extended Borough of Leicester.

† The apparent diminution in the number of deaths from "Other Tubercular Diseases" since 1901 is due to an alteration in classification, many deaths being allocated to the other headings, chiefly to "Phthisis." This partly accounts for the apparent increase in "Phthisis" in recent years.

TABLE XXI.

Age and Sex Distribution of Deaths from Phthisis in 1909.

Age Period.		Males.	Females.	Total.
0 to 5	...	0	0	0
5 „ 10	...	1	3	4
10 „ 20	...	12	19	31
20 „ 30	...	38	35	73
30 „ 40	...	32	35	67
40 „ 50	..	21	24	48
50 „ 60	..	29	15	44
60 „ 70	...	7	11	18
70 „ 80	...	3	2	5
Over 80	...	0	0	0
Total	...	146	144	290

Occupations of Persons Dying from Phthisis in 1909.

	M.	F.		M.	F.
SHOE TRADE:			Cardboard Box Hands	...	1
Finishers	...	18	Basket Makers	...	2
Clickers	...	8	Carters...	...	3
Riveters	...	16	Printers	...	3
Pressmen	...	2	Waiters	...	2
Machinists	...	11	Corset Stitchers	...	2
Warehousemen	...	1	Wool Scourers...	...	2
Various	...	7	Marine Store Dealers...	2	...
Total in Shoes	...	52	Hawkers	...	2
			Various	...	23
Hosiery Trade*	...	7	17	Occupations not stated	
Labourers	...	11	(includes Married		
Clerks	...	8	Women, Widows, Child-		
Tailoring Trade	...	5	ren, and Persons of no		
Shopkeepers	...	3	occupation)	...	16
Mechanics	...	4		95	
House Decorators	...	3			
Cigar Hands	...	1	Total	...	146
				144	

* A large number of *married* women are engaged in the Hosiery Trade, but these are not included, for in the case of deaths of married women and widows, only the husband's occupation is registered.

TABLE XXII.
Deaths in each Ward from Phthisis during the Ten Years, 1900-1909.

No. of Ward.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	Total Deaths from Phthisis in 10 years	Average Annual Mortality.
1. St. Martin's	2	0	3	6	7	5	8	2	4	1	38	1.32
2. Newton	20	21	5	7	18	20	23	12	17	15	158	1.75
3. St. Margaret's	15	6	17	21	27	21	29	20	19	13	191	1.38
4. Wyggeston	18	19	23	29	35	30	31	26	31	26	268	1.85
5. Latimer	18	31	19	26	35	26	25	32	24	21	260	1.50
6. Charnwood	7	8	6	10	16	17	19	15	11	9	118	1.32
7. Wycliffe	10	16	13	13	11	15	15	21	18	22	160	1.56
8. De Montfort	6	6	3	8	12	9	11	5	3	1	70	.94
9. The Castle	23	28	28	16	21	19	29	19	19	12	211	1.50
10. Westcotes	10	12	19	19	25	18	23	12	17	31	186	1.73
11. The Abbey	11	21	17	11	19	19	25	35	33	21	218	1.06
12. Belgrave	17	15	10	8	13	13	26	20	18	21	164	1.00
13. West Humblestone	13	20	13	8	8	2	11	21	13	23	132	.76
14. Spinney Hill	18	25	25	22	25	15	20	18	21	29	218	.87
15. Knighton	6	9	19	6	10	7	9	6	8	15	95	.62
16. Aylestone	4	13	15	16	21	11	17	6	19	12	142	1.23
Union Workhouse	27	16	32	28	33	23	10				169	
Borough Asylum	2	5	5	7	11	12	5	2	12	9	70	
Total	230	271	272	266	353	288	339	275	287	290	2871	1.17
General Infirmary	5	8	11	1	6	6	9	2	2	1	57	
Poor Law Infirmary	...	...	...	...	...	...	...	36	30	53	119	

N.B. The deaths from Phthisis occurring at the Union Workhouse and at the Borough Asylum have been subtracted from Wycliffe and West Humblestone Wards respectively but have not been distributed; whilst the deaths occurring at the General and Poor Law Infirmaries have been distributed to the wards to which the persons belonged.

TABLE XXIII.
Scarlet Fever Statistics.

Year.	Actual Numbers Recorded.				Rates.			
	Deaths.	Cases Notified	Cases removed to Hospital	Deaths per 100,000 Pop.	Cases Notified per 50,000 Pop.	Cases Removed to Hospital per 50,000 Pop.	Per centage removed to Hospital	Per centage Fatality.
1877	33	...	38	29.6	...	17.1	...	...
1878	12	...	51	10.5	...	22.3	...	...
1879	105	...	247	89.9	...	105.5	...	...
1880	119	802	230	99.1	331.1	95.8	28.6	14.8
1881	184	1065	388	119.5	432.9	157.7	36.1	17.2
1882	72	763	160	57.1	302.7	182.5	60.2	9.4
1883	91	797	383	70.3	308.9	148.1	48.0	11.1
1884	63	701	351	47.5	263.5	133.1	59.1	8.9
1885	113	1816	900	82.9	667.6	330.8	49.5	6.2
1886	41	817	439	31.5	291.7	156.7	53.7	5.3
1887	5	272	151	3.5	95.1	52.7	55.5	1.8
1888	4	132	91	2.7	44.8	31.9	71.2	3.0
1889	6	109	327	3.9	136.3	109.0	79.9	1.1
1890	38	516	171	24.6	167.5	152.9	91.2	7.3
1891	17	794	636	9.6	224.2	179.6	80.1	2.1
1892	11	1331	733	22.6	367.6	202.4	55.0	3.0
1893	81	2308	none	14.0	627.1	none	none	3.5
1894	30	855	413	16.0	228.6	110.1	48.3	3.5
1895	15	723	115	7.8	189.2	116.1	61.5	2.0
1896	18	2110	1098	21.7	513.8	259.7	47.7	2.2
1897	73	1615	1018	36.8	415.4	261.6	63.7	1.1
1898	11	923	699	21.8	229.6	173.8	75.7	1.7
1899	12	1217	866	20.5	305.6	212.2	69.1	3.3
1900	28	839	571	13.3	200.7	137.3	68.1	3.3
1901	6	758	185	2.9	178.7	114.3	63.9	.7
1902	11	826	579	5.0	191.2	131.0	70.0	1.3
1903	15	533	430	6.8	121.1	29.5	21.3	2.8
1904	1	554	239	1.7	123.6	53.3	43.1	.7
1905	36	1117	739	15.8	211.9	162.0	66.1	3.2
1906	52	2301	1171	22.1	495.9	317.0	63.9	2.2
1907	11	1710	1196	18.6	362.3	253.2	69.9	2.5
1908	29	1206	869	12.0	251.2	181.0	72.0	2.1
1909	23	1768	1166	9.4	361.9	238.6	65.9	1.3

Prior to the year 1900 a Local Notification Act was in force, under which first cases only in a house were notifiable. Allowance must be made for this in comparing with recent years.

TABLE XXIII (a).
Leicester. Scarlet Fever.—"Return" Cases.

YEAR.	1904	1905	1906	1907	1908	1909
Total Cases Notified	554	1,117	2,301	1,710	1,206	1,768
Number of Patients Discharged from Hospital ...	189	661	1,385	1,209	851	1,165
Average Days Stay	43.0	40.7	42.8	47.1	48.1	37.9
Number of "Infecting" Cases	?	24	104	75	57	83
Percentage of "Infecting" Cases	?	3.6	7.5	6.2	6.7	7.1
Number of Deaths in Hospital	2	20	37	36	19	17
Case Mortality in Completed Cases	1.0	3.4	2.6	2.9	2.2	1.43

"Infecting" Cases = "Return" Cases, exclusive of any but the first "Return" Case in a house.

TABLE XXIV.
MEASLES.—Deaths and Rates in past years

Year.	Measles.—Deaths.	Rate per 1,000 population.	Quinquennial average.
1880	166	1·383	·514
1881	7	·056	
1882	74	·587	
1883	15	·116	
1884	57	·429	
1885	52	·382	·446
1886	43	·307	
1887	87	·609	
1888	77	·524	
1889	62	·410	
1890	30	·195	·443
1891	84	·474	
1892	126	·696	
1893	52	·282	
1894	106	·566	
1895	29	·152	·406
1896	120	·618	
1897	12	·060	
1898	211	1·049	
1899	31	·152	
1900	49	·234	·226
1901	17	·080	
1902	73	·338	
1903	74	·336	
1904	32	·143	
1905	53	·232	·394
1906	80	·344	
1907	60	·251	
1908	167	·695	
1909	109	·446	

TABLE XXV.

List of REGISTERED MIDWIVES practising in Leicester.
(February, 1910.)

Name.	Address.
BECK, ANN	9, Spinney Hill Road.
BAILL, EMMA	91½, Mount Road.
BRANT, ELIZABETH	29, Derwent Street.
*BUCKLER, ANNIE ELIZABETH	1, Spence Street
BROWN, MATHILDA	19, Oxford Street.
CARR, MARY	7, Willow Bridge Street.
CHAMBERLAIN, ELIZABETH	31, Upper Charles Street.
CHAMBERS, PRISCILLA	29, Upper Charles Street.
†DUGGAN, ALICE	2, Catherine Street.
FREER, MARY ANN	52, Marjorie Street.
GIBSON, AGNES	120, Wellington Street,
HUMPAGE SARAH ANN	27, Abbey Gate.
†HOWE, ALICE ELIZA	6, Princess Road
†HEPPLEWHITE, EDITH MARY	144, Narborough Road.
HILL, MATHILDA	37, Denmark Road.
†HUTLEY, MARIA	16, Glenfield Road.
*HARRATT, LIZZIE ANNIE	27, Ross's Walk.
JONES, KATE	82, Knighton Street.
LAPPAGE, MARY JANE	21, Dunton Street
†McREYNOLDS, ELIZA	19, Baggrave Street.
MEASON, EMMA	21, Thornton Lane.
MONK, ELIZABETH	75, Upper Conduit Street.
MORRIS, ELIZABETH	4, Larch Street.
PLUMB, EMILY	157, Cranbourne Street.
RUSSON, EMMA	46, Moores Road
SHELLEY, MARGARET	35, Stanley Street.
SMITH, ROSETTA	17, Pool Road.
SEARE, MARIA A.	42, Justice Street.
WILLIAMS, KATE R.	8, Bulwer Road
WESTON, ADELAIDE	105, Grasmere Street.
WOODWARD, CHARLOTTE	144, Walnut Street.
WALKER, EMMA	11, Abbey Park Road.
*WATTS, EMILY	98, St. Saviour's Road.
†WELLS, EMMA	40, Conduit Street.
*TOWNSEND, HARRIET ANN	691, Aylestone Road.
TOTAL	35.

* Holds Certificate of Central Midwives' Board.

† Holds Certificate of London Obstetrical Society.

TABLE XXVI.

BOROUGH OF LEICESTER.

INFANTILE MORTALITY DURING THE YEAR 1909.

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.		Under 1 Week	1 2 Weeks	2 3 Weeks	3 4 Weeks	Total under 1 Month	1 2 Months	2 3 Months	3 4 Months	4 5 Months	5 6 Months	6 7 Months	7 8 Months	8 9 Months	9 10 Months	10 11 Months	11 12 Months	Total Deaths under 1 Year
All Causes		116	33	40	32	221	68	56	49	52	37	41	37	31	39	27	30	688
i. Common Infections Diseases	Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Chicken-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Measles	..	1	..	..	1	..	..	1	3	2	2	1	2	1	4	3	23
	Scarlet Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Diphtheria (including Membranous Croup)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
ii. Diarrhoeal Diseases	Whooping Cough	..	..	..	..	..	3	4	3	2	1	2	5	..	1	2	3	26
	Diarrhoea, all forms	..	..	4	1	5	14	10	10	7	12	6	5	4	7	5	6	91
	Enteritis, Muco-enteritis, Gastro-enteritis	..	1	1	2	1	3	2	1	2	2	1	5	3	1	..	..	24
	Gastritis, Gastro-intestinal Catarrh	..	..	..	1	1	1	3	2	1	1	..	2	..	..	..	..	11
	Premature Birth	73	8	11	7	99	6	1	..	..	..	..	..	..	..	..	..	106
iii. Wasting Diseases	Congenital Defects	9	2	2	1	14	..	..	1	1	..	..	..	..	..	..	..	16
	Injury at Birth	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Want of Breast-milk	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Starvation	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Atrophy, Debility, Marasmus	12	9	10	11	42	19	16	9	8	3	5	4	6	..	4	1	117
iv. Tuberculous Diseases	Tuberculous Meningitis	..	..	..	..	..	..	1	1	1	..	2	..	..	2	..	2	9
	Tuberculous Peritonitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Tuberculous Mesenterica	..	..	..	..	..	..	2	..	2	1	2	2	..	1	..	..	10
	Other Tuberculous Diseases	..	..	..	..	..	..	..	..	2	..	1	..	..	..	..	..	3
v. Other Causes	Erysipelas	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
	Syphilis	..	..	2	1	3	1	..	1	..	..	..	..	..	..	..	..	5
	Rickets	..	..	..	..	..	..	..	1	1	1	..	..	2	2	1	1	9
	Meningitis (not Tuberculous)	..	..	..	..	..	..	1	..	..	2	..	..	1	1	1	1	7
	Convulsions	..	7	5	3	1	16	8	6	6	11	1	4	5	1	7	2	70
	Bronchitis	..	1	2	5	1	9	4	2	3	3	2	8	2	3	1	1	39
	Laryngitis	..	..	..	1	1	1	..	..	..	..	..	..	1	..	1	1	3
	Pneumonia	..	..	..	..	..	1	2	3	4	6	4	1	7	10	4	7	52
	Suffocation	..	6	..	1	7	2	2	4	1	1	..	..	1	1	..	..	19
	Other Causes	..	8	5	..	19	5	4	3	3	1	4	1	..	1	2	..	43
	Murder	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Manslaughter	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Population estimated to middle of 1909 ... 244,255.

Births in the Year { legitimate, 5,204. Deaths in the Year of { legitimate infants, 654.
 { illegitimate, 227. { illegitimate infants, 31.

Deaths from all Causes at all Ages ... 3,153.

TABLE XXVI (a).

Infantile Mortality during 1909. An abridged form of the preceding.

Cause of Death.	Under 1 month	1 to 3 months	3 to 6 months	6 to 9 months	9 to 12 months	Total deaths under 1 year
All Causes	221 = 32·1 per cent.	124 = 18·0 per cent.	138 = 20·0 per cent.	109 = 15·8 per cent.	96 = 13·9 per cent.	688
Common Infectious Diseases	1	7	13	13	18	52
Diarrhoeal Diseases... ..	10	33	38	26	19	126
Premature Birth	99	7	..	...	...	106
Congenital Defects... ..	14	...	2	...	...	16
Atrophy, Debility, Marasmus	42	35	20	15	5	117
Tuberculous Diseases	...	3	7	7	5	22
Convulsions... ..	16	14	18	10	12	70
Bronchitis and Pneumonia ..	9	9	21	28	24	91
All other Causes	30	16	19	10	13	88

TABLE XXVII.*
Number of Persons living at different Age Periods in Borough of Leicester.

	All Ages.	Under 1 year	Under 5 years	5	10	15	20	30	40	50	60	70	80	90
Census, 1891 ...	174,624	4,780	21,749	20,331	19,574	18,818	32,212	23,812	17,013	10,976	6,560	3,003	514	32
Census, 1901 ...	211,579	5,273	24,266	21,873	21,431	22,224	41,519	30,405	22,400	14,586	8,377	3,680	773	45

Proportion of Persons living at different Age Periods in Borough of Leicester
(expressed as percentage of total population).

	All Ages	Under 1 year	Under 5 years	5	10	15	20	30	40	50	60	70	80	90
Census, 1891 ...	100·0	2·7	12·4	11·6	11·2	10·8	18·4	13·7	9·7	6·3	3·8	1·7	·31	·02
Census, 1901 ..	100·0	2·5	11·4	10·3	10·1	10·5	19·6	14·3	10·6	6·8	3·9	1·7	·36	·02

* Abstracted from the Census Returns.

TABLE XXVIII.
Family History of Phthisis Cases Investigated, 1904-9.

1 YEAR.	2 With history of Consumptive Parent.	3 With history of Consumptive Brother or Sister.	4 With history of both Consumptive Parent and Brother or Sister.	5 Neither Parent nor Brother or Sister Consumptive.	6 Total Cases Investigated.
1904	21	31	12	112	176
1905	31	39	8	164	242
1906	9	27	18	106	160
1907	20	36	12	120	188
1908	32	29	16	113	190
1909	21	37	8	99	165
Total ...	134	199	74	744	1121
Percentage ...	11.9	17.7	6.6	63.6	100.0

By adding Column 4 to Columns 2 and 3 respectively we find that 18.5 per cent. of the cases investigated gave a history of having had a consumptive parent; and 24.3 per cent. of having had a consumptive brother or sister. In round figures, one-fifth have had a consumptive parent; one-fifth have had a consumptive brother or sister; and three-fifths have had neither parent nor brother or sister affected.

TABLE XXIX.

Showing Number of Emptics in Leicester (supplied by Mr. W. Earp, Chief Assistant Overseer).

DATE.	Houses.	Cottages.	Warehouses.	Workshops, &c.	Offices.	Total.
July 1, 1907	848	2,348	76	87	72	3,431
January 1, 1908	821	2,384	68	54	68	3,393
July 1, "	839	2,279	61	76	78	3,333
January 1, 1909	700	2,147	65	49	72	3,033
July 1, "	798	1,993	76	76	78	3,021
January 4, 1910	715	1,849	80	67	70	2,781

TABLE XXX.

Showing Age-Incidence of Deaths in Leicester since 1894.

The alteration in Age-Incidence which is taking place is shown graphically in Diagram II.

Year.	Deaths under 5 years.		Deaths over 60 years.		Total deaths.
	Number.	Percentage.	Number.	Percentage.	
1894	1,301	47·6	564	20·6	2,730
1895	1,611	48·5	774	23·3	3,320
1896	1,624	49·5	689	21·0	3,277
1897	1,758	49·4	746	20·9	3,553
1898	1,703	48·9	773	22·2	3,480
1899	1,707	45·8	897	24·1	3,727
1900	1,627	43·6	863	23·1	3,729
1901	1,435	42·9	827	24·7	3,339
1902	1,303	41·1	828	26·1	3,172
1903	1,279	41·7	824	26·9	3,065
1904	1,255	38·4	950	29·1	3,266
1905	1,148	37·5	897	29·3	3,062
1906	1,397	41·8	871	26·1	3,341
1907	989	33·1	927	31·0	2,988
1908	1,109	35·5	952	30·5	3,119
1909	1,006	31·9	1,073	34·0	3,153

TABLE XXXI.

Monthly Rainfall and Temperature during 1909.
As recorded at the Borough Asylum (supplied by Dr. Finch).

Month.	Rainfall in inches.	Mean Temperature. Fahr.
January	·89	36°
February	·64	36°
March	2·70	37°
April	1·20	56°
May	1·35	51°
June... ..	2·89	55°
July	3·33	59°
August	3·03	60°
September	2·80	52°
October	3·37	51°
November	·65	39°
December	3·90	38°

MORTALITY TABLE.



CLASSIFICATION OF DEATHS IN, 1909
ACCORDING TO CAUSE.

CLASS VI.

DEVELOPMENTAL DISEASES.

Premature Birth	60	46	...	...	...	60	46	...	...	...	60	46	106
Atelectasis	3	3	...	...	...	3	3	...	...	...	3	3	6
Congenital Malformations	10	6	...	...	...	10	6	...	...	...	10	6	16
Teething	...	1	...	...	...	1	1	...	...	...	1	1	2
Atrophy, Inanition, Debility	66	51	3	3	69	54	1	...	2	5	3	6	72
Old Age	...	...	...	...	...	...	...	46	60	40	86	128	132
													214
	139	107	4	3	143	110	1	...	48	65	40	69	476

CLASS VII.

DEATHS FROM VIOLENCE.

1. Accident or Negligence.

Fracture and Contusions	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gunshot Wounds	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cut, Stab	1	...	6	1	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Burns and Scalds	1	...	2	1	3	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Poison...	...	...	...	...	...	...	3	...	1	...	...	...	...	...	...	...	...	...	...
Drowning	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Suffocation	10	9	...	...	10	9	...	...	...	...	...	...	...	...	...	...	...	...	...
Otherwise	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...

2. Homicide.

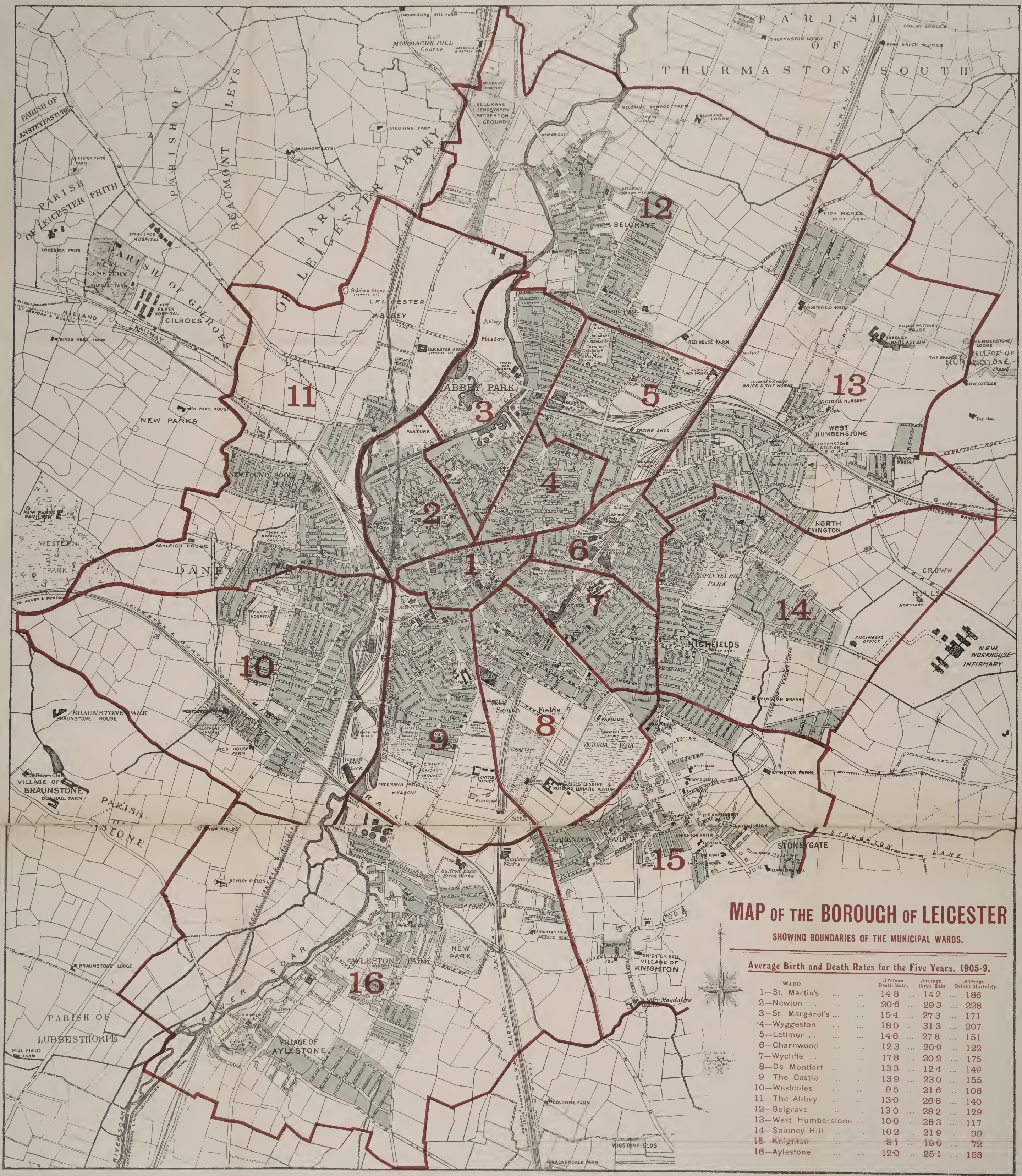
Manslaughter	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Murder	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

3. Suicide.

	13	9	8	3	21	12	6	1	12	2	10	7	8	5	2	38	15	59	27	86
--	----	---	---	---	----	----	---	---	----	---	----	---	---	---	---	----	----	----	----	----

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MAP OF THE BOROUGH OF LEICESTER
SHOWING BOUNDARIES OF THE MUNICIPAL WARDS.

Average Birth and Death Rates for the Five Years, 1905-9.

WARD.	Average Death Rate.	Average Birth Rate.	Average Infant Mortality.
1—St. Martin's	148	142	186
2—Newton	206	293	228
3—St. Margaret's	154	273	171
4—Wyggeston	180	313	207
5—Latimer	146	278	151
6—Charnwood	123	209	122
7—Wycliffe	178	202	175
8—De Montfort	133	124	149
9—The Castle	139	230	155
10—Westcotes	95	216	106
11—The Abbey	130	268	140
12—Belgrave	130	282	129
13—West Humberstone	100	283	117
14—Spinney Hill	102	219	99
15—Knighton	81	190	72
16—Aylestone	120	251	158

